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## *Handling Cotton and Rayon Piece Goods\**

By J. F. Warner of the Pacific Mills

THE handling of cotton and rayon piece goods is rapidly becoming a specialized branch of the textile finishing industry, and it is the purpose of this paper to briefly review what might be termed some of the present day standard practices. As is well known, there was a brief period a few years ago when practically every cotton piece goods bleacher and print works advertised their ability to handle the new rayon fabrics, and this fact, coupled with the attempts of all sorts of cotton piece goods selling organizations to merchandise cloths which were as equally unfamiliar to them as they were to the finishers, led to the flooding of the market with a large amount of poorly finished, and poorly merchandised rayon fabrics. As a result, the consumer lost interest for a while in rayon.

Gradually conditions became stabilized, however, and a comparatively small number of cotton and rayon constructions took their places as staple cloths in the market. At the same time, the weaving and finishing of these mixed goods became concentrated in a small group of mills and finishing plants which made their correct processing the subject of intensive study and research.

When working with the two fibres the physical difference is of much greater importance than the chemical, and this will continue until the manufacturers of rayon succeeded in developing a much stronger and more durable fibre. Many of the faults still found with the dyer of rayon are due to lack of appreciation of the relative difference in the strength and elasticity of the rayon fibre as compared to the cotton fibre. Viscose rayon is one of the purest of the textile fibres, and mat grades would require no preliminary scouring or bleaching before dyeing were it not for impurities such as dirt and oil which accumulate in the manufacture of the cloth. Quite often, however, the cotton used in connection with the rayon is of a poor quality, not combed, and as a result a vigorous cleaning is needed. If the cloth has a cotton warp with the rayon introduced in the filling, it will require malting to remove the starch materials used in sizing the warp

yarns. The malting may be carried out at the singeing machine or if singeing is not required, the cloth may be run through 5 per cent of a malt extract on a two-bowl padder. In the latter case, care must be taken to see that the cloth is threaded up loosely and that all guide rollers are smooth and easy running in order to prevent fraying. If the rayon is in the warp, a mild scouring with soap and weak alkali will usually remove whatever size has been used in slashing.

### **Care Needed in Sizing.**

In this connection care must be exercised in sizing rayon yarn, and it is safe to say that the quality of the finished fabric made from rayon warps depends largely on good results from the slasher room. The size box should be as close as possible to the drying cylinder, and the warp not immersed, but merely receiving the film of the size liquor carried around by the roll running in the mix, in the same manner as "slop-padding" is carried out in the dyehouse. This will prevent excessive stretching of the wet yarn, and thus help in securing an even dyeing.

One of the requirements of most cotton and rayon cloths is a smooth face when finished and this necessitates singeing. For this operation a gas singer with not more than four burners of the split type is required. In the case of plain weaves, such as "rayon alpacas" or "chiffons," the quality of cotton used in the warps determines the amount of singeing necessary. For rayon face fabrics, of which satins and dobby figured goods are representative, one or two burners with reduced pressure will suffice.

Whether the cloth should be run straight across the flame or up and down seems to be largely a matter of personal choice, although it is safe to say that for light-weight goods there is less danger if the former method is followed.

For the better grades when a very light singeing is required it is possible to use a regular silk beamer equipped with burners.

After singeing and malting the cloth is ready for scouring and bleaching. Much has been written "pro and con" as to the necessity of kier boiling cotton and rayon piece goods, but it is now recognized

that this is largely dependent upon two factors: first, the quality of the cotton used, and second, the amount of rayon in the fabric. Broadcloth shirtings, heavy coutis and other firm constructions with small rayon stripes or effects may be boiled in the pressure kiers with caustic soda in much the same manner as all cotton piece goods, and the processing of these fabrics is almost entirely being handled by the larger cotton bleacheries and print works.

No exact formulae as to the quality of caustic or bleaching assistants are necessary, as these depend upon local conditions and requirements. If due care is given to the physical handling of the fabric, the rayon will withstand the chemical treatments required to properly bleach the cotton.

After kier boiling, the usual washing, scouring and washing operations are carried out in the rope form, after which the cloth is bleached with sodium hypochlorite and piled in bins. It is then well washed in the rope state, treated with an anti-chlor, and again piled down previous to drying. While heavier grades may be successfully opened on a scutcher, the safest procedure is to open the cloth to full width by hand over a "moon board," and then lightly mangle before passing over drying cans.

The gain or "stretch" is an important factor to the finisher, and bearing this in mind it is undoubtedly cheaper to process in the above manner all types of cotton and rayon piece goods which are not injured by the long handling required.

For lighter weight fabrics such as rayon striped voiles, scouring and bleaching in slack washers gives good results, and when three or more of these machines are hooked up in range it is possible to treat the goods quickly. Here again the quality of the cotton determines the length of time required, and the number of units through which the cloth is run. If scouring alone will clear the cloth sufficiently for dyeing, three of these reel washers are arranged so as to allow for a soaping in the first two and a warm water wash in the third. For such work a good grade of olive oil soap made up 3 ounces to the gallon gives a thorough wetting out and scouring. The cloth is run continuously

in the rope state, and from the last washer may be trucked to the dyeing kettles without being dried. An arrangement of this sort will keep sufficient prepared cloth ahead to take care of a battery of four or more reel dyeing machines.

### **Bleaching in a Continuous Run.**

If bleaching is required, as is the case for whites and light tints it is possible to group six or eight machines of the Dolly washer type, so as to complete the scouring and washing in a continuous run. If the larger number of machines is available, the routing may be varied according to the construction of the goods and the amount of handling needed to obtain good results. Particularly for styles which are subsequently to be printed it is essential to obtain a good "bottom" during preparation, and this entails the complete removal of sizing materials, cotton waxes and all other impurities. In no other way is it possible to obtain a clean, sharp print.

For small orders, all of the above preparatory handling may take place on a single reel dyeing machine, and this is the plan followed in most dyehouses for runs up to 2,000 yards. After the successive steps of scouring and bleaching, the dyeing is carried out on the same machine.

At times rayon and cotton crepes are in demand, and the processing of such fabrics in general follows along the lines already outlined, with the addition of a run in the "dash wheel" or "laundry machine." The length of time the goods are tumbled in this machine varies greatly, depending on the construction of the cloth and finish desired, and may run from one minute to twenty minutes or more. An olive oil soap made up one-half ounce to the gallon is usually the only scouring agent used, and from the laundry machine the goods are loaded in the dye kettles. If bleaching is required, this may be done in the reel machine with 3 deg. Tw., sodium hypochlorite, running the goods cold for one hour or more, depending on the degree of whiteness required.

If special equipment is not available, scouring and bleaching may be successfully carried out on the jigs. A typical treatment for a 1,000-yard roll consists of giving the cloth four ends at 140 deg. Fahr. through sixteen gallons of water, to which has

\*Paper read before the American Association of Textile Chemists and Colorists. Handling Cotton and Rayon Piece Goods

been added 3 pounds malt extract, then running for six ends through a fresh bath at 160 deg. Fahr. made up of 1½ pounds chip soap and 4 ounces of tri-sodium phosphate in 24 gallons of water. The roll is then washed through hot water and cooled down in one end through cold water preparatory to bleaching. Eight to ten ends through 6 deg. soda chemic, followed by two wash waters, then a fresh bath of bisulphite of soda and a final cold water wash develops a good white and a fairly well-bottomed result, which for plain dyes will give level results. If preparing for printing, it is desirable to have the cloth as absorbent as possible, and if the runs are fairly large kier boiling usually gives the cheapest and best results. However, if the equipment is not available or the construction of the cloth will not permit, satisfactory results may be obtained on the Dolly washers or jigs.

In any of the above methods, peroxide may be substituted as the bleaching agent in place of the hypochlorites, but it is not being generally used for cotton and rayon piece goods.

It is upon the dyer that the responsibility is usually placed if the finished result is not satisfactory, and for this reason a great amount of chemical control is necessary if consistently good results are to be obtained on cotton and rayon fabrics. The statement was frequently made when rayon began a few years ago to play an important part in the cotton industry that it might be dyed like cotton in the same machine, with the same colors, etc. It was soon found that this was but partly true, and that to obtain best results much greater care was necessary in the mechanical handling of the goods, and a large amount of research required to show the colors best suited to give uniformity, to dye the cotton and rayon the same shade, to cover up bands due to irregularity in the manufacture of the rayon, and in general to cope with the numerous problems presented when the two fibers are used together. There is today probably no phase of textile dyeing being accorded greater study, and although considerable progress has been made in solving these problems, much yet remains before uniform dyeing can be assured.

#### Merits of the Padder

The machines chiefly used are the padder, jig, and reel dyeing machine. For light and medium shades required on firm constructions, which have been kier boiled and bleached, or otherwise prepared so as to be well bottomed and thoroughly absorbent, the padder gives the lowest cost and greatest production. Depending on the depth of shade and fastness required, the cloth may be batched up on rolls, or run through the padder over a reel and dropped in a box. If the maximum penetration and fastness with any given dyestuff on pad shades is required, batching the cloth and allowing the rolls to stand for several hours before drying is necessary. In this case, however, it is a difficult matter for the dyer to judge from his trial batches just how they will compare in shades with the run, and

the extent to which the shade will change can only be determined through experience. In either case, the dyed cloth is taken into the drier, and here again the point to be carefully watched is the tension on the wet cloth. All tension rails and guide rolls on the padder should be smooth and free running to prevent fraying of the cloth.

When faster results are required, either the jig or reel dyeing machine is used. The latter machine is the most useful for all-around work, and there are very few cotton and rayon fabrics which cannot be successfully dyed on it. It has the advantage of low color costs, and permits of almost complete exhaustion of the dyestuff. For crepe constructions, of course, no other machine preserves the effect so well. The silk reel machine enables the dyer to feed the color solution very slowly, and when dyeing is complete, to run the fabric in an exhausted salt solution, which helps materially the covering power of some of the substantive dyes. Time will not permit of a discussion of problems of color application, but it may be stated that the dyeing of uniform shades on cotton and rayon is at times a difficult matter, for the reason that viscose rayon dyes most even at a high temperature, whereas in order to produce a lustrous finish it is desirable to keep the shade of the rayon close to that of the cotton, and this requires a lower dyeing temperature.

The jig is used principally for dyeing goods requiring only a slight preliminary treatment, in most cases only a wetting out, as well as heavy goods woven with a large amount of rayon thrown to the face of the cloth such as satins, twill linings, etc. The latter, if kettle dyed, are apt to show streaks where the cloth is creased while in the rope state. This may also occur on plain weaves of high count. Considerable difference of opinion exists as to the best material to use in the construction of the jig for general cotton and rayon work, although at present the accepted practice seems to be heavy soapstone tanks and Monel metal or brass fittings, which combination permits quick cleaning. However, satisfactory results may be obtained on the ordinary wooden jig if precautions are taken to see that the immersion rolls and beams are smooth and true, and all movable parts free running. The details of temperature, assistants, and all others must be worked out with respect to the class of dyestuffs used. As a general rule, a short bath is preferable to a long one when the cotton and rayon must be dyed the same shade with direct dyes, as this allows a lower temperature to be used and gives quicker exhaustion.

After dyeing, the jig rolls are usually given a light mangling. If available a run on the horizontal extractor is of value in speeding up the subsequent drying, for in this case a large amount of the moisture in the roll has been removed before the cloth passes over the drying cylinders. Some goods may be taken direct to the dryer from the jig without mangling, and this seems to work well if the tension is watched

carefully, and the drying cans are not too hot.

The finishing of cotton and rayon piece goods may be considered as falling in two classes: first, the handling of those fabrics which are starched, tendered and calendered on the respective types of machines used for cotton piece goods, and second, such cloths as require running on silk finishing machinery to obtain best results. In the latter class are such fabrics as chiffons, crepes and satins; in the former, rayon stripped broadcloths, voiles and other cloths containing a small amount of rayon. While most of the finishing machines are comparatively simple in construction, the manipulation necessary to produce the maximum lustre and width on a given cloth requires constant study.

#### Sizing Materials.

After dyeing and drying, the average cloth of a plain weave with cotton warp is sized on a 2-bowl mangle running in conjunction with a ninety foot tenter. Starches are seldom used to any extent, due to their opaque nature, with the result that any considerable quantity has the effect of clouding or dulling the lustre of the rayon. Transparent gums, such as gum arabic, or gum tragacanth, along with sulphonated oils, give the clearest results and are used in proportions suitable to obtain the proper body and firmness. Specific formulae are of little value inasmuch as the type of bowl used in the mangle pressure applied, and heating facilities at the tenter largely govern the quantity of materials needed.

One of the most common defects met with in rayon filled goods finished through the regular sixty or ninety foot cotton tenter is broken selvages. In some cases these may be due to faulty cloth construction, but more often are caused by too rapid drying in the tenter. For rayon filled goods of light weight it is desirable to reduce the amount of heat in the first section. If this is supplied by steam coils, reducing valves may be used to advantage. It is likewise a good practice to adjust the sections of the tenter so as to reach the required width gradually.

For the finishing of better grades of rayon fabrics it is necessary to use silk finishing machines, including the quetsch for sizing the goods and the silk tenter and calender for obtaining width and lustre. The quetsch works on the same principle as an ordinary starch mangle, except that it is lighter and more easily running. In the case of the tree-bowl type, it allows the finisher to apply evenly an exceedingly small amount of size or softener to the fabric. This is accomplished by passing the cloth through the upper nip of the machine.

The finishing solution is carried up in a fine film on the middle bowl, the bottom bowl revolving in a pan containing the solution, and the surplus being squeezed back by the lower nip. The squetsch is sometimes equipped with a series of gas burners, arranged so as to partially dry the cloth before it is sent to the tenter. This arrangement is seldom used on cotton and rayons, however. In using the quetsch, care must be exercised to see that too great a

pressure is not exerted on the squeeze rolls, as otherwise the shape of the rayon fibre may be altered from that of a round to a flat thread, and the lustre thereby impaired.

After being sized, the cloth is dried and framed to width on the silk tenter. If run on the two-bowl quetsch, and a finished width close to the original gray width is desired, two or more runs on the tenter are necessary. Most silk tenters differ from those used in cotton finishing plants by being equipped with open gas burners at the entering end. There are numerous ideas as to the most efficient manner of regulating this heat, but they all have as their object the rapid drying of the cloth.

Due to the physical properties of the rayon fiber few finishing effects can be produced on the calender, and in this respect it differs materially from cotton. Most cotton and rayon piece goods are given a run through a silk calender as a final finishing operation, its main value being in slightly softening and smoothing out the cloth. Rayon does not permit of friction, schreiner charmeuse or the many combinations of these calenders which turn out the specialty finishes on all-cotton piece goods.

The Palmer machine, in which the face of the cloth is carried against one or more heater cylinders by means of a felt blanket, gives a soft mellow hand with considerable sheen, and may be used to produce a lustre not unlike that obtained on all cotton goods by friction calendering. For satin face fabrics it produces the best possible finish. Due to its high initial cost, however, it has not found general use in the cotton and rayon field.

Where the gums or other finishing materials have left the cloth too firm and boardy after drying, one or two runs over a button breaker will soften it down and make the finish more pliable. Care must be exercised regarding the tension, however, or damage to the rayon will result, and it must be borne in mind that the button breaker was originally designed for all silk goods, which possess much greater elasticity.

At all stages of finishing, dampness must be guarded against, as the well-known property of rayon to stretch under the slightest provocation when damp may result in an unevenly stretched piece of goods, and possibly necessitate refinishing.

#### Viscose Expands Force

Parkersburg, W. Va.—Viscose Co., manufacturers of rayon, will employ 2,400 additional workers in the next 28 weeks, bringing the total number employed at the local plant to 3,600 men and women, according to an announcement received here by Treasurer Hendrixon of the company.

The 2,400 men and women to be added to the present force will be employed at the rate of 75 per week. If machinery is installed more rapidly than is now anticipated the number to be employed per week will be increased to 100 until the maximum number of 2,400 has been employed.



## "Why I Went South"

By Guy Morrison Walker, in Manufacturer's Record.

(The writer of the following article, Guy Morrison Walker, has long been recognized as one of the leading lawyers, country. Thirty years ago, when just financial experts and economists of our out of college, he astonished the banking world with a study on trust companies that has since become a classic.

For the past 25 years he has been one of the busiest business doctors in the United States. In 1902 he was special counsel for the committee that reorganized the Everett-Moore syndicate of Cleveland. This syndicate, owning railroads for over \$100,000,000, but in two years way and light and power properties, fall their properties were reorganized without the loss of a dollar to a single creditor. In 1907 when the Knickerbocker Trust Company of New York City closed its doors for what was the biggest bank failure ever in the United States, Mr. Walker was elected chairman of the committee of depositors, and the plans that resulted in the reopening of the Knickerbocker Company without loss were largely his.

For more than 25 years Mr. Walker has ranged over the United States salvaging wrecked properties, saving bankers and investors from bad loans and poor investments, seeking the causes of failure and finding the conditions that make for success. He has been over Europe repeatedly and around the world twice. He has been consulted by the governments of China, India and Australia. He is now a heavy investor in the South, and owns a home and large plantation interests in Mississippi. When asked by The Manufacturers Record why he selected the following remarkable presentation of the advantages of that section. His statement should be distributed by the millions of copies by Southern railroads and business interests.

It has often been said that it takes an outsider to see the advantages of a place, as the people who live there are too close to the opportunities to see them. It is doubtful if any Southerner knows all of the points made by Mr. Walker. The casual outsider might never notice them—only the trained observer and scientific economist would have figured out these points. Since they are demonstrated by Mr. Walker in his statement they are plain enough to all and will have great influence for the good of the South—Editor Manufacturers Record.)

I had gone back and forth through our Western States while a student in college and knew by personal observation that Greeley's advice to young men had long been overdone. In a vague sort of way, I felt that it was time for the South to make a new start; but, it was not until after five years of strenuous apprenticeship in Indiana, where I had been born and educated, that I got my first opportunity to look over the South.

In looking over the map, I had noted the fact that Little Rock, Ark., was in the geographical and railroad center of that State much as Indianapolis, which I had seen grow from 35,000 to 175,000, was in Indiana, and so when I first started South I went to Little Rock with the idea of locating there. But, a few months there showed me that Arkansas then was dominated financially and economically by the city of Memphis, so I went to Memphis and was admitted to the bar there. From Memphis I made a number of short trips through Mississippi, Alabama and Georgia.

The first thing that drew me to the South was the extraordinary difference in land values. I had been accustomed in Indiana, Illinois, Missouri and Kansas to values of from \$60 to \$200 an acre for improved lands and even \$40 \$50 an acre for rough pasture lands which it was impossible to cultivate. Even on the Pacific coast I had been astonished to find \$40 and \$50 an acre asked for cutover lands that were still full of stumps. My first inquiries in Mississippi brought forth

offers of any amount of land at \$2 to \$3 an acre and even today there are thousands of acres just as good as the \$50 an acre land anywhere in the North that can be bought in Georgia, Alabama and Mississippi for between \$5 and \$10 an acre.

### Undeveloped Resources.

The next thing that impressed me in the South was the great natural resources that could be seen on every hand that remained undeveloped. It could easily be seen that this condition of undevelopment could not continue much longer. Certainly there were no possibilities of profit in the overdeveloped Northern States to compare with the undeveloped resources of the South, and this is still true today.

Another thing which astonished me was the low rate of taxes. There was, of course, good reason for this: The people of the South were not making much then and could not have afforded to pay high taxes had they been levied and many of the people were "land poor." But, whatever the reason, the fact remained that even in proportion to values the taxes throughout the Southern States were only about one-third or one-half as high as they were in the North and this condition prevails to this day. Even now, the taxes on mill and manufacturing properties throughout the South are only 40 or 50 per cent of the taxes on similar properties in New England and the North Central States.

The chief thing that the South needed at that time was more railroads; for, transportation is the foundation of all development, and I soon became interested in a railroad proposition.

It was at this point during my year in Memphis that I discovered something I had not noticed while living in Indiana, and that was the financial domination of the country by New York City. Anybody who had a proposition too large to be handled locally looked to New York City, and so I started for New York. There I stayed for 25 years, practicing my profession and reorganizing and financing railroad and public utility properties. I realized that New York City was not the best place in the country to live and make a home, but I found by experience that to New York came practically all the live propositions of the country, and that one could sit in his office there and take his pick of the business of the whole country. From 1896 to 1920, there was plenty to do in the reorganizing and financing of such properties, and so I was busy investigating the causes of failure or the lack of success, from one end of the country to the other. I had reorganizations from New England to the Pacific coast.

It was not until after 15 years of reorganizing and financing Northern properties that I was called upon to reorganize a Southern property.

### Public Utility Properties.

When I first considered this business, I was warned that it would be impossible to sell the bonds of a Southern public utility, because

(Continued on Page 24)



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## Orderly Distribution Essential, Says Turner

"There is probably nothing which industry desires more than an orderly distribution of its products," Spencer Turner, president of the Association of Cotton Textile Merchants of New York, states in an article in the current issue of *Wholesale*, the new quarterly for the dry goods trade which has just been published.

"For more than a hundred years the cotton textile industry has had great influence in inventing and perfecting the machines and processes which have made mass production possible. The mechanization of industry has enabled manufacturing costs to be reduced. Lower costs have broadened markets, created new wants, and by the very nature of competitive force have spurred industry to greater productivity.

"But there must be a limit, a saturation point beyond which production cannot properly and profitably go unless it is supplemented by an adequate distribution.

"Production cannot be blind. More than ever it needs the eyes and ears of progressive merchandising to be wholly successful. In such a situation the wholesale merchant occupies a strategic position, for he is by tradition one who has specialized in the function of merchandising.

"Change has been one of the characteristics of the last decade in the textile industry. This does not mean that the industry has been in

a static condition in the more remote past, but simply that the experiences of recent years seem to have raised more complex and more difficult problems than have been presented previously.

"Other industries and our entire environment have changed, too. Old conceptions of time and space have been completely altered as science and human daring have spanned oceans and continents in new ways and discovered new products or new processes to supplant the old. Material prosperity has created new habits, new tastes and new standards of living.

"These and other factors have been reflected in the new conditions which have confronted the wholesale merchant and the selling agent. Economic laws have operated in two distinct directions:

1. Introducing new buying habits.
2. Creating new channels of distribution.

"The outstanding effect of the first has been seen in the new merchandising policy which has become familiar as hand-to-mouth buying. Some prefer to describe it as "limited" or "rational" buying. By whatever term it is described it seems to be the evidence of change as a constant business factor. Instead of being a symptom of maladjustment in our economic structure it seems rather to be the expression of economic laws which operated inevitably at a time when business read-

justments were necessary. It hit hard because it was such a dark horse in the Distribution Derby, and so many had plunged on the old favorite—large orders and mass production.

"It has exacted penalties and at the same time has emphasized the necessity for more careful attention to simple economic principles. It is not difficult to find support for the psychology of limited buying. Operating under a system of rigid merchandise control the merchant now depends on a rapid turnover of his stock. Goods are not carried on shelves or in warehouses as they used to be. When this new method of merchandising was put into effect, it took the primary dry goods market by surprise. As that surprise has vanished, the mills evolved a method of meeting these new conditions. The counterpart of limited buying was a flexible or budgeted production, also based on reduction of inventories and rapidity of turnover. It has thrown an added burden on the manufacturer because there is no one else to carry stocks.

"There have been instances where orders have dwindled in size to a point that makes transportation costs all out of proportion. On the other hand it appears that a rational view of this new method of merchandising brings a large opportunity to the wholesale merchant to make his influence felt as the manufacturer's barometer and index of

business. Because the wholesaler is close to the ultimate consumer he has information of vital importance to those whose dealings are in the primary market and closer to the course of supply.

"Economic pressure also has been responsible for opening up new channels of distribution. It was only a few years ago that the country store at the crossroads was a familiar and important outlet for the manufacturer and wholesaler of cotton goods. The small store is still a vital element in distribution, but its position has been completely altered in the last generation.

"When the automobile brought good roads and greater mobility of the population the small country merchant had to yield. Sales of merchandise which had been made over his counter were now made in the larger towns and cities. Style was accentuated as an important factor, and its rapid fluctuations helped the drift away from the smaller store.

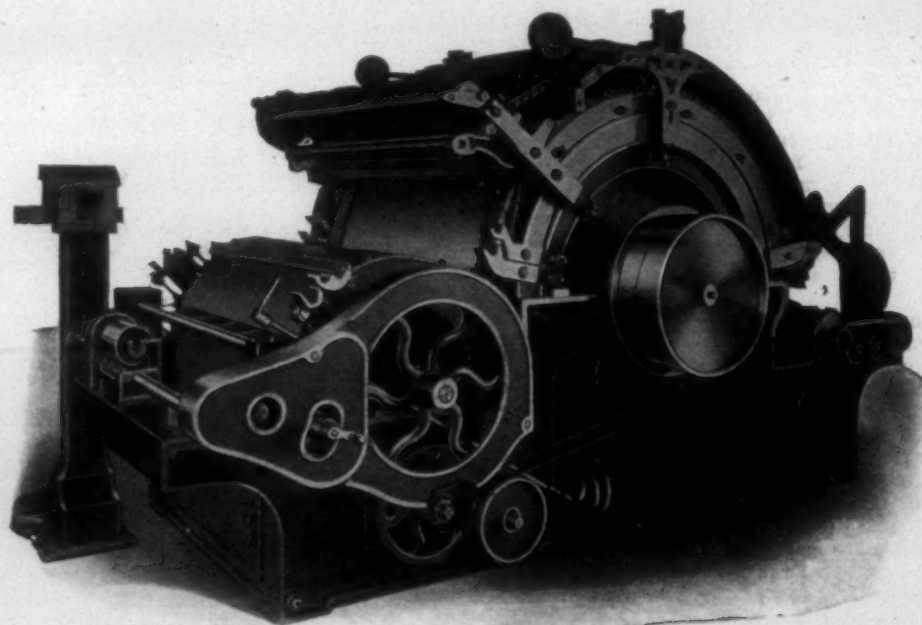
"There also came the department store, the mail-order merchant and chain stores with their economies and modifications in the traditional methods of distribution."

New Bedford, Mass.—Members of the Fine Cotton Goods Exchange, representing 80 per cent of the fine goods looms of the country, voted Friday to curtail production at least 20 per cent beginning immediately and continuing until October 1.

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## COTTON MACHINERY



## December Production Lower

Average weekly production of standard cotton cloths during December, 1927 declined 7.5 per cent as compared with weekly production in November, and 10.3 per cent as compared with the weekly production in October, according to reports for the month just compiled by the Association of Cotton Textile Merchants of New York. These three months, October, November and December, are the only ones for which comparison of identical reporting groups may be made. The December reports covers a period of five weeks.

Production during the five weeks of December was 372,042,000 yards. Sales amounted to 407,881,000 yards, or 109.6 per cent of production. Shipments were 361,376,000 yards, or 97.1 per cent of production during the month.

Unfilled orders on December 31st amounted to 386,726,000 yards, an increase of 13.7 per cent over unfilled orders on December 1st. Stocks on hand at the end of the month were 303,201,000 yards, an increase of 3.6 per cent during the month.

Through the cooperation of the Cotton-Textile Institute, Inc., and by reason of the addition of new reporting groups from the membership of the Association of Cotton Textile Merchants of New York, the statistics at the end of the year were much more complete than the industry has ever had; but because of these additions the figures are not comparable with data available at the end of the year were much more complete than the industry has ever had; but because of these additions the figures are not comparable with data available at the first of the year. The reports are based on statistics compiled by 23 groups on the production and sale of standard cotton cloths, and represent a very large part of the manufacture and sale of these fabrics in the United States.

## Orderly Curtailment

The process of orderly curtailment among the cotton mills of North and South Carolina is having the desired effect. The market is steady.

Mills are now in position to take advantage of every break in the market and are operating only on orders which mean business. They are not laying up a big supply of yarns to hold in stock. They are not creating surpluses, says The Concord Tribune, referring to the scheme of moderate curtailment and keen study of market conditions.

"That plan," says the Concord paper, "seems to be the most logical. It may mean a suspension of work one day a week or a day and a half a week but that is better than reducing wages or piling up surpluses that will mean a shutdown of several weeks later on."

"Within the past several weeks the textile market has been somewhat steadier and there has been a distinct improvement in some lines. That means that mills which three weeks ago planned a curtail-

ed program are now in position to operate on full schedule. The mills would have curtailed their work, however, if the orders had not come, on the theory that it is useless and expensive to fill warehouses just to be running.

"There is less jealousy among the mills now. Time was when one sought to make more goods than another despite the earnings, but that time has passed. The mill men are watching the market with a keen eye and they are ready to halt operations at the moment any great surplus appears. They have learned that stockholders want dividends, not the honor of operating the most hours without profit." — *Gastonia Daily Gazette*.

## Georgia Mill Work 65%

Columbus, Ga.—Production in the cotton mills of Georgia during the past two months is estimated at less than any other like period since the middle of the year 1926. During the month of December, the output is estimated at 65 per cent.

It is difficult to determine the output of the mills by the operating schedule. There are mills that operate 55 hours per week, but have as many as 50 per cent of their looms stopped, with, of course, part of the preparatory equipment idle.

Since Monday, January 2, there has been some slight curtailment, but an estimate of production taken the week before Christmas indicates fairly well what the following plants are doing today:

Cochran Mills, Cochran, with 80 narrow and 52 broad looms, 85 per cent of looms running 55 hours; Eagle and Phoenix Mills, Columbus, 1,874 narrow looms and 75 wide looms running 50 hours night and day, 80 per cent; Hogansville Mills, Hogansville, 92 looms running 90 per cent at 40 hours.

New England Southern Mills, La-Grange, 90 per cent for 40 hours on 112 looms, Lanett Cotton Mills, West Point, 1,810 broad and 600 narrow looms, 90 per cent for 50 hours; Fairfax Mills, West Point, 973 looms for 50 hours with 95 per cent running; Shawmut Mills, West Point, 500 looms running 50 hours, 95 per cent.

Langdale Mills, West Point, 400 looms about 90 per cent for 50 hours Barrow County Mills, Winder, 300 narrow looms, 55 hours at 90 per cent; Riverdale Mills, West Point, and the Unity Cotton Mills, La Point, 340 looms, 50 hours, 90 per cent; Grange, 133 broad and 30 narrow looms, 55 hours, 80 per cent.

## Better Cotton Urged

Goldsboro, N. C.—"Grow a grade of cotton that will grade an inch as a minimum" was the advice of Dr. R. Y. Winters, director of the North Carolina agricultural station, Raleigh, in a speech to farmers at the Belfast school.

North Carolina mills now use about 500,000 bales of cotton a year and of this amount they purchase only about one-fourth in North Carolina because it is impossible to purchase satisfactory staple for their purposes beyond that amount, he said.

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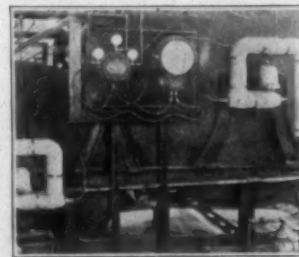
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(Commission Department)

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# DUPLAN

## Review of 1927 Marketing Problems

THE year 1927 was very changeable and difficult in the textile merchandising field. More than the usual number of wholesale distributors retired from business and several important changes were undertaken in the distribution of mill products. In the manufacturing division the profits were better than in 1926, but there was constant complaints throughout the year of the narrow margins on which mills were forced to operate. Some of the troubles arose from the insecurity of raw material prices, but most of them could be traced to the inability to secure volume orders ahead on which to predicate profitable quantity production.

The accepted system of carrying smaller inventories, ordering goods in small quantities and generally refusing to anticipate style changes or consumer requirements, threw heavy burdens on the producers and distributors of goods of all kinds. In the opinion of many merchants the unusual weather of last year was more than ordinarily disorganizing in merchandising. The effect was more noticeable in garment divisions of the industry and the fall and winter seasons were particularly disappointing.

### First Better Than Second Half.

The year opened with prospects very good and as a whole the first part of the year was better than the last half. But spring floods along the Mississippi was a very unsettling influence. A coal strike in the soft coal fields affected business adversely in the Middle Western States. The contracted business in the automobile trade and the steel trade affected many distributing centers and also led to hesitation in the heavier end of the cotton industry and in some lines of other divisions of the textile trade.

It became evident in the early spring that a very substantial reduction in the acreage planted to cotton would take place and before the Government cotton estimates of the year were completed it was manifest that there would be a reduction in the yield of approximately 5,000,000 bales compared with the preceding season.

### Rayon Industry's Growth.

The rayon industry continued to grow by leaps and bounds and before the year closed it had attained a position where its leaders had determined to enter upon a plan to enable the industry to stand alone and as independent as possible from other textile divisions. More fabrics of all rayon or chemical fiber content were produced and sold, while other textile divisions used rayon in larger quantities for decorative or other purposes.

The rayon output of about 6,000,000 pounds ten years ago had risen in the course of 1927 to 75,000,000 pounds annually. This huge output was consumed, together with imports of nearly twice the volume of any preceding year, and with a carryover from 1926 fully consumed, it was estimated that this country used in 1927 at least 100,000,000 pounds of a textile fiber hardly known outside of the laboratories a quarter of a century ago.

In November, 1926, rayon prices

dropped back to the lowest levels ever quoted, when they were 55s a pound below any pre-war level. When the year opened the prices were advanced 10 per cent and they held stable throughout the year on most of the popular sizes. But the increasing output of the fine super-qualities and the greater competition to secure business in that direction led to reductions that promised to continue owing to the wider field that appears to be opened to cloths into which they go, and to the extensive plan under way to increase the output of the finer fibers in this country and abroad.

Despite the marvelous growth of rayon production and consumption in the country during the year, the consumption of silk and cotton in the mills of the country was greater than ever. A notable feature of rayon development in the last half of the year was a substantially increased consumption of chemical fibers in wollen mills. Some carpet mills have also begun to introduce it into some of their products.

### Wool Industry Liquidated.

The wool goods industry in 1927 touched the lowest point of after-war depression in the volume of production but at the same time in the last half of the year it began to give evidence of a recovery that bids fair to hold for some time. A rise in the wool values in world markets was a strengthening factor. In the past two or three years many inefficient plants were crowded out of the business and the stronger plants were able to inaugurate greater economies in production and merchandising.

A notable survey of the industry was made during the year and soon after its conclusions were digested by the trade steps were taken to inaugurate a degree of co-operation similar to that which had been under way in a limited sense in silk and cotton industries. The financial standing of the larger corporations that have weathered the after-war readjustment period gives promise of a greater degree of stability than has been seen in the industry in some time.

The largest unit of production in the trade showed a decided gain in the variety and volume of its output, a substantially reduced inventory and a healthier financial condition. The character of dress goods fabrics showed a notable change toward lighter weights and finer yarns, especially in the worsted divisions.

### Record Yield of Cotton.

In the cotton goods division the mills were helped greatly by the record yield of cotton in the crop of 1926-27. Starting at the first of the year with prices of New York middling spots at 12.80c, which proved to be the lowest point, prices rose moderately to the end of April, when spots were quoted at 15.30c. It was then apparent that an acreage reduction of at least 20 per cent could be relied upon.

A strong speculative movement started in August and in that month the spot price advanced 5c a pound from 18.25c to 23.25c. On the day be-

(Continued on Page 27)



## Predicts Closer Mill Co-Operation

President M. J. Warner in his address before the Converters' Association at its annual banquet in New York said that a period of better relationships between mills and converters is in prospect. This co-operation, he asserted, was the only salvation for the textile trade which has been "set aside from the family of prosperous industries."

Mr. Warner based his belief on the fact that a body of interests were represented for the first time at the association's dinner. His address was:

"From one end of the country to the other, and wherever the language of trade is spoken, it is known that the cotton textile industry is at this time the least fortunate of all lines of endeavor. In our intercourse with others we seemingly show reasonable intelligence, and coming out of our co-ordinated efforts beautiful merchandise is produced, and if our higher order of textile developments can be referred to in a superlative sense then it must be true that our staple goods are equally satisfactory from the standpoint of manufacture.

### Industry Without Foundation.

"Though we have merchandise that meets the demands of the most exacting consumer, we still wobble around seemingly without purpose or direction. An intelligently conducted search must certainly disclose the reason why we are set aside from the family of prosperous industries, and with the source of fault once definitely located there should be those within our trade who have the necessary spirit of leadership to point the way to better things.

"As an industry we are a structure without a foundation, rocked even by the mildest zephyrs; we stand erect only in the balmy weather, but tremble at every frown of the elements.

"In each of our particular trade groups there are those that have cultivated hobbies, who by close application and long study have brought to the surface the other fellow's faults. The converter concludes that more of the spirit of friendliness on the part of the mill interest would be to his everlasting benefit. The mill, in turn, regards the demand of the converter for a lower price as something in the nature of a conspiracy; a sashing at his vitals.

### Trade Shifts Blame.

"The finisher and the converter can be said to have 'buried the hatchet' and have agreed to provide for their future differences in a peaceful and orderly manner, but now we come to a picture less satisfactory. The jobber charges most converters, and many mills, with the offering of merchandise direct to his customers, and those so charged contend that the wholesaler, by his newly adopted policies, has to a serious degree stepped out of his function as the exclusive distributor for the products of the manufacturer, has set himself apart as a separate and independent unit of the trade with no obligation other than to serve his own interests as

he understands it, and that that conclusion has confused the producer's plan of distribution, leaving him (the manufacturer) with no alternative other than to find a market for his goods wherever possible, or to turn his business over to the tender mercies of a receiver-ship.

"This brief sketch provides only for the relationship between one branch of the industry and another, but within each of the various branches of our trade there is a state of affairs even more chaotic. That which best serves one converter is not acceptable to another; the small mill cannot subscribe to the policies of the larger units, which is likewise true as between the old mill and the new one; a section of the wholesale trade shows a more than normal interest in branded and nationally advertised goods, while others lean in an opposite direction. Wholesalers located in distant sections acclaim the principle of store delivery by the producer, which with equal emphasis is opposed by those distributors situated nearer to the source of production. So we can go on with the story to endless length, and make of it a veritable Chinese play, but that would no better serve the purpose.

"While we know today that specific faults can be corrected, and trading policies altered by conferences between representatives of the respective interests affected still the process is slow, tedious and discouraging, for though we meet pursuant to a petition of one branch to the other the underlying spirit is other than as it should be, or as it must be if the greatest measure of accomplishment is to be expected.

"Let us for the moment turn our thoughts in the direction from which a reasonable stabilization can be looked for, if that can be found. Is it not a fact that out of a spirit of fraternity and good fellowship a most yielding disposition toward co-operation can be hoped for? Am I wrong in concluding that co-operation is the material from which we must build a foundation under the cotton goods trade structure? What is there in this gathering tonight that is outstanding? Am I not correct in stating that this is the first occasion that a body of mill interests has met with the converters of their products?

"To properly appraise the value of this event I have only to take our thoughts back to the beginning of the yearly courtesies that brought the finisher and the converter into a closer and more friendly relationship, and then to visualize what has come out of that expression of good will. Are we here setting up another milestone that will mark the road that leads to better things? I sincerely hope so, for in making these gestures enduring we are building that thing which is so vitally necessary in our trade. When we can come together for the discussion of our respective problems, and with the determination to help each other, then, and then only, will our industry be on the way to a better future."

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# Practical Discussions By Practical Men

## Card Banding.

Does it pay to make our own card banding and splice them?

By J. B.

## Loose Pulleys.

Editor:

In specifying loose pulleys for spinning frames and twisters what is the best kind of a pulley to order? Ark.

## Preventing Full Spools from Falling on the Floor.

Editor:

In our large spooling department we handle over 50,000 full spools daily. These are piled on the spooler top creels. But many of them fall on the floor. These get soiled and some are broken. What is the best way to overcome this state of things? H. B.

## Putting on Leather Rolls.

Editor:

I would like for some one to give me the proper way to put a leather covered roll in a spinning frame. Which side of the lap should be marked with a dot or arrow? With the roll held in front of you facing the machine on which side of the cemented lap should the mark be?

We are on 7-8-inch staple cotton, making hosiery yarn. 12/1 to 18/1. How many rolls should be consumed per week of 55 hours per frame? C. M. S.

## Pitch of Bevel Gear.

Editor:

Please ask the following question in your Discussion Department.

Will some one give me a rule for working out the pitch of a bevel gear? Dixie.

## Question on Carding.

Editor:

Please advise me what is the proper number of beats per inch to get a clean lap on 13 ounce lap on breakers, intermediates and finishers.

Also I wish to get information from a practical man who sets his flats on 9-10 on Saco-Pette card and in what arrangement does he take of his flats and how to prevent facing the flats. I have trouble with flats facing on back side. The cards are level, clothing good, but our cards are on third floor and suffer from lots of vibration. I use 6 ft. 1 in. belt to drive flats. Also what is the best way to get a hook of wire. Anxious.

## Answer to Puzzled.

On this page last week we published an inquiry signed "Puzzled," asking for a size formula for 20s

*The Practical Discussion Department of the Southern Textile Bulletin is open to all readers whether they are interested in seeking information on technical questions or are willing to help "the other fellow" who has experienced trouble in some phase of his work.*

*The questions and answers are from practical men and have often proved extremely valuable in giving help when it was urgently needed.*

*The interchange of ideas between superintendents and overseers develops a great deal of worth while information that results in much practical benefit to the men who are concerned with similar problems.*

*You are invited to make free use of this department and to join in discussing various problems that are mentioned from week to week. Do not hesitate because you do not feel that you are an experienced writer. We will take care of that part of it.—Editor.*

warp yarns to be used in making 4-harness twills, 3.40 yard goods.

We have received several answers to this inquiry. As each of them recommends a different sizing compound and as it is not within the province of this publication to recommend any particular sizing compound or formula, we have forwarded the several answers direct to the man who sent in the question.—Editor.

## Answer to X. X.

Editor:

What is the rule to show the gain when changing from 1 1/4-inch and 3/4-inch bobbins to 1 1/2-inch rings and 25-32-inch bobbins, and how much is gained thereby?

This is a question of area. The area of a circle is found by squaring the diameter and multiplying by the constant 0.7854. From the area of ring, the area of the bobbin diameter must be removed, so as show the actual area left for the yarn. Do the same for the larger ring and the larger bobbin, and the difference between the two will show the gain.

Example:

1 1/4 inch ring equals 2 405-1000 area; 3/4 inch bobbin equals 141-1000 area; left for yarn \*1 964-1000 area; 1 1/2 inch ring equals 2 761-1000 area; 25-32 inch bobbin equals 479-1000 area; left for yarn \*2 282-1000 area; gain shows 318-1000 area additional space for yarn. Technical.

## Answer to Insulator.

Editor:

Insulator has a peculiar problem to solve. His twister bobbins fit on spindles which measure 390-1000 of an inch in diameter and the spindles go through the full length of the bobbin. But he says that these bobbins must fit spindles on insulating machines which are 394-1000 of an inch in diameter. He also says these spindles are short and only pass through one-half of the bobbin.

My answer to this would be to suggest boring out only the bottom half of the bobbin to say 500-1000 of an inch. In this way the bobbins will fit the insulating machine spindles. And as the top of the bobbin will remain the same as before, it will fit the top half of the twister

spindle. So far as the bottom half of the bobbin is concerned the bobbin seat will hold the bobbins in place, and the bobbin will not wobble at the top. Try this compounding of bobbin reaming and I believe it will work out all right. Compound reaming of bobbins has worked O.K., in other mills, and that is why I have answered Insulator as I have. But the best way would be to have the spindles alike. Engineer.

## Answer to Speed.

Editor:

What is the remedy to prevent the bands from running off, when the bands and spindles whorls are of the right size?

In this case the cylinder should be raised; as the bands run off on the down side of the spindle whorl. If they ran off on the up-side, the cylinder should be lower, but this rarely happens, because the tendency of the band is to drop and run off, rather than to rise and run off. Bander.

## Get Busy Weavers.

Editor:

It looks as though most of the mills are making cloth in their carding and spinning rooms. I notice that the majority of questions in your Discussion Page deal with carding and spinning or some other phase of manufacture not related to weaving. I would like to see more of the weavers make use of this page and more answers sent in to the question they might ask. Is it possible that the weavers are all so good, or do they just hate to talk? L. A. B. (Weaver)

## Answer to Card.

Editor:

I notice that Card wants a plan by which he can doff his full cans on cards. I would suggest he get a new set of card hands, a grinder included. Then allow the proper time to fill the cans and have them doffed right on the minute. He should also have a stop-motion on his cans so as to avoid waste and make it convenient for his card hands. Bob.

## Answer to Huntsville.

Editor:

What are the advantages of increasing the speed of the ring rail on spinning frames, and can as much yarn be put on the bobbin?

The advantages are that less snarled bobbins are made because the ends will cross oftener. The broken ends can also be found on the bobbins easier. The work will also run better because the ends are kept more evenly tensioned.

Theoretically less yarn will be put on the bobbin, but practically the difference is negligible. N. C.

## Answer to Speed.

Editor:

Replying to the question by Speed, it may be that his trouble with bands running off whorls on the down side of the whorl is caused by the way his bands are put together. It would be a good idea if he would check up to see whether the knots are too large. Pee Dee.

## Answer to Huntsville.

Editor:

I note the question by Huntsville in regard to speeding up the ring rail on his spinning frame. He wants to know if as much yarn can be put on the bobbin.

Some men claim the yarn will run off the bobbin better if the ring rail is speeded up. I never could see any advantage in doing so. Of course you want to put the yarn on the bobbin as firmly as possible. You can put on as much yarn by regulating the pick, or by taking up the gear to fewer notches. Pee Dee.

## A Letter

C. R. Miller Manufacturing Company  
Dallas, Texas.  
January 10, 1928.

Mr. David Clark,  
Southern Textile Bulletin,  
Charlotte, N. C.

Dear Mr. Clark:

Permit me to offer just a word of commendation on the editorial in your issue of January 5th, entitled "Another Year." The sentiment contained in your article I think is quite appropriate for the season.

We are prone to look at the accumulation of worldly goods which we may acquire, but too few of us think of the happiness and pleasure that may be ours if we try as we go through life to shed sunshine and happiness and accumulate a wealth of friends. We will then leave behind the memory of one who was a friend to man.

I feel sure your editorial will give many of us an inspiration that will be well worth while.

Very truly yours,

AL. CULBERSON.  
Vice-president.



### Carders' Division To Meet Wednesday

The Carders' Division of the Southern Textile Association will meet at the Jefferson Hotel, Columbia, S. C., Wednesday, January 25th.

The meeting will be called to order at 10 o'clock, Wednesday morning by J. O. Corn, superintendent, Hampton Department, Pacific Mills, who is also chairman of the Carders' Division.

Mr. Corn states that this meeting will differ from the recent meetings this division has held, in that the discussions will not be technical as they have in the past.

The subject for discussion at this meeting will be: "What are my duties as an overseer?"

This subject, Mr. Corn states should be of considerable interest to all overseers as well as superintendents because there are so many things which are required of operating executives outside of the technicalities which go to make successful overseers and superintendents.

In announcing the meeting, Secretary Gregg, of the Southern Textile Association said:

"Mr. Corn wishes everyone to come prepared to discuss this question fully, and he assures you that if you will come prepared everyone attending the meeting will leave being a better operating executive than he was before, because with the question well analyzed you can determine wherein you are weak and can improve and begin building up these weak points."

"As the majority of the cotton mill men know, Mr. Corn is considered one of the best manufacturers in the South and an authority on carding; a man highly capable of leading this discussion, and mainly the person who has been responsible for the great amount of good this Division has been to the textile industry of the South."

"We urge every cotton mill superintendent and overseer who can possibly do so to attend this meeting."

### Hines To Address Combed Yarn Spinners

Gastonia, N. C.—Walker D. Hines, president of the Cotton-Textile Institute, Inc., will address a meeting of the combed yarn spinners of the two Carolinas at a meeting to be held in Gastonia Saturday, January 28. A luncheon will be tendered the visiting spinners at that time by the Gaston County Manufacturers' Association, in the Masonic temple.

Decision to this end was reached at an enthusiastic meeting of the association held Monday night in the dining room of the Masonic temple. It was found that Mr. Hines could stop over several hours while on his way back to his offices in New York from a meeting in Atlanta of another section of the textile industry. It will be the first time he has met with the combed yarn spinners and it is expected that the meeting will be one of real importance to the industry.

### Less Cotton Is Consumed

Washington, D. C.—Cotton consumed during December, the Census Bureau announced, totaled 543,598 bales of lint and 51,844 of linters, compared with 625,680 of lint and 62,041 of linters in November and 602,986 of lint and 53,960 of linters in December a year ago.

Cotton on hand December 31 was held as follows:

In consuming establishments 1,707,326 bales of lint and 202,370 of linters, compared with 1,551,336 of lint and 172,261 of linters on November 30, and 1,763,739 of lint and 140,564 of linters on December 31 a year ago.

In public storage and at compresses 5,655,736 bales of lint and 55,753 of linters, compared with 5,969,418 of lint and 54,735 of linters on November 30, and 6,548,257 of lint and 57,113 of linters on December 31 a year ago.

Imports during December totaled 41,211 bales, compared with 28,285 in November and 53,960 in December a year ago.

Exports for December totaled 767,314 bales, including 22,574 bales of linters, compared with 999,501 and 17,697 in November, and 1,531,297 and 27,290 in December a year ago.

Cotton spindles active during December numbered 31,715,388 compared with 32,269,478 in November and 32,489,570 in December a year ago.

Statistics for cotton growing States follows:

Cotton consumed during December totaled 406,710 bales, compared with 468,596 in November and 438,511 in December a year ago.

Cotton on hand December 31 was held as follows:

In consuming establishments 1,206,411 bales, compared with 1,131,456 on November 30 and 1,225,121 in December 31 a year ago.

In public storage and at compresses 5,349,369 bales, compared with 5,668,551 on November 31 and 6,261,791 on December 31 a year ago.

Cotton spindles active during December numbered 17,891,270, compared with 17,877,478 in November and 17,404,764 in December a year ago.

### Book on Mill Arithmetic

Cotton Mill Mathematics is the name of a new text book just published by Smith, Hammond & Co., Atlanta. The authors are W. S. Smith, overseer of weaving at the Pacolet Mills, New Holland Ga., and Thos. H. Quigley, of the Georgia School of Technology, Atlanta.

The book is written for the cotton mill man or boy who knows no mathematics and should fill a need that has long been felt for a book of this type. It takes the beginner step by step through practical problems in carding, spinning and weaving. It is especially adapted for day, night and part-time schools in mill communities.

The book has 336 pages, with 34 illustrations. It is attractively printed and bound.

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# EMMONS LOOM HARNESS AND REEDS

## Effect of Temperature and Humidity on Cotton Spinning

The Indian Central Cotton Committee has just published an interesting paper on the work of the Technological Laboratory on the Effect of Temperature and Humidity on Cotton Spinning, in particular reference to conditions in Bombay.

Spinning tests were carried out on seven different cottons, each of which were spun in duplicate into three counts of yarn under three different sets of physical conditions of temperature and humidity. The spinning conditions were described as follows:

(1) Medium-Dry — conditions obtained when the outside relative humidity was at its lowest (about 30 to 35 per cent.)

(2) Normal—conditions such that the temperature was about 80 degrees F., and the relative humidity was about 65 per cent.

(3) Monsoon — conditions where the temperature was about 90 degrees F. and the relative humidity about 70 per cent.

The conclusions drawn on these tests were:

(1) For comfort, the normal conditions are more satisfactory than either of the extreme conditions.

(2) For workability of the material, the medium-dry conditions are

not quite satisfactory in the card room, whereas the normal and monsoon conditions are satisfactory throughout.

(3) The yarn spun under medium-dry conditions is the least satisfactory in appearance, and that spun under the Monsoon conditions the most satisfactory, but these differences practically disappear when the yarn is conditioned.

(4) Within the limits of temperature and humidity within which these tests have been carried out, it is impossible to lay down any hard and fast rule as to the conditions (medium-dry, normal, or monsoon) which give rise to the strongest yarns, the differences for the most part being inappreciable.

(5) In general, it may be taken that the processing of the material in cotton-spinning and the quality of the spun yarn are not seriously affected by the spinning processes being carried out at relative humidities as low as 40 per cent, but that, taking all things together, the normal conditions are probably best for carrying out cotton-spinning tests.

(6) Bombay conditions are practically ideal for the processing of the material in cotton spinning.

The effects of humidity on end breakage in spinning as shown by tests are somewhat inconsistent. The yarns spun under the low humidity conditions were soft, very lively, and full of crimp. The yarns under

normal conditions were less so and the yarns spun under the monsoon, or highest humidity conditions were, in general, very smooth and free from crimp. The yarns appeared to be affected by the different conditions so far as their evenness and nappiness were concerned. When the yarns had been kept for some months, the difference between the yarns was not pronounced.

## Tension Import in Handling Rayon

Rayon is easy to weave, knit or braid if tension and friction are held to an absolute working minimum, was the advice given British manufacturers by A. L. Wykes, textile specialist, in an address before the Leeds association. Fabrics containing strained yarn sometimes appear passable when sold, but very unsightly after washing or wetting in the rain, he pointed out. Friction reduces the strength of rayon, just as excessive tension reduces its extension, he said. Running the thread round a steel rod is quite enough to weaken the thread considerably; broken threads are due to friction, not excessive tension.

Methods which give complete success with cotton or wool fail badly when applied to rayon, because the slight differences are not appreciated. The trouble is that rayon has

been treated as if it were a substance obeying straight-line laws. It is a complex system of two states of cellulose, one "dispersed," the other "locked." Dispersed cellulose stretches much with small increases of tension, stretching as much as 30 per cent before breaking, and, though at no degree of extension completely elastic, it can recover as much as one inch in ten after removal of tension.

## Depend on Locked Cellulose

Ordinary rayon contains both dispersed and locked cellulose in varying proportions, and it is on the degree of which locked cellulose is present that the physical characteristics of the yarn depend. Up to a point all the tension is absorbed in stretching in greater increments until the thread breaks. Up to this yield-point the stretch is recovered if the tension is removed, while afterward only a decreasing proportion is recovered.

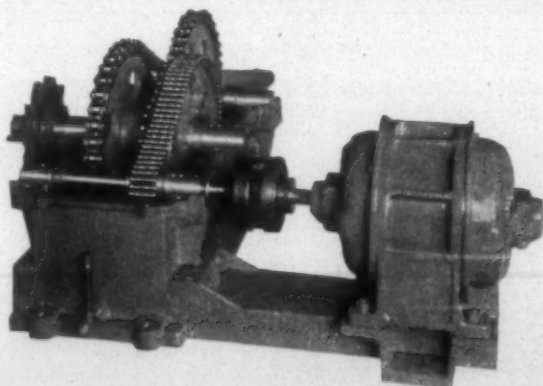
Tension converts all dispersed cellulose to the completely elastic but brittle form. Normal artificial silk contains approximately 60 per cent dispersed and 40 per cent locked cellulose. In yarn strained by excessive tension the thread is brittle, hard, elastic, strong, while in the unstrained form the thread is capable of about 20 per cent extension, has little elasticity, and is soft and pliable.

A faint bright line across the

# Standard Equipment!

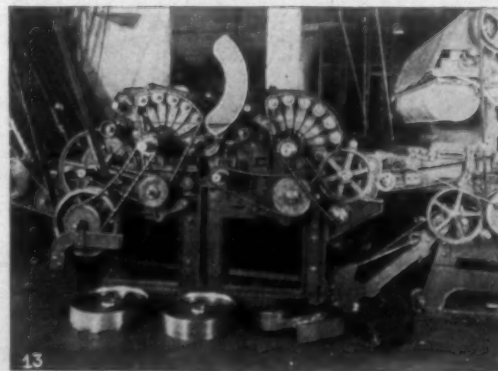
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# DIAMOND ROLLER CHAIN



width of the fabric, commonly called a bright pick, is a frequent occurrence. This is often due to the introduction of a weft thread which has been strained by tension. Rayon is capable of many forms of these. The luster value of a pick depends on the angle of the thread as it passes from the top of one warp thread to the bottom of the next.

#### Stiffening the Yarn.

This small half-loop acts as a mirror, and uniform luster of a fabric depends on the mirrors on each side of each warp-end, throwing the light back to the eye at a uniform angle. A pick put in tighter than the others means strain on the warp threads it crosses, and the half-loops will be at flatter angles than the normal ones. A stiff thread will produce the same effect, though less pronounced, and rayon containing a high content of locked cellulose through undue stretching is stiff.

Difficulty in doubling an end of rayon with real silk and preventing the artificial silk forming loops, especially if, after doubling, the thread is rewound under heavy tension for knitting or weaving, is due to the combined thread being stretched beyond the elastic limit of the artificial silk component. The fault can be avoided by specially tensioning rayon to such an extent as will not be exceeded in subsequent processes. If the doubling is done on a combined doubling and twisting machine this can be done by putting a heavy weight on the tensioning string of the fiber bobbin and a very light one on the silk bobbin.

Locked cellulose can be reconverted to dispersed merely by wetting. Wet rayon is cellulose in a completely dispersed form, with low tensile strength, big extension, and easily to be elongated or given permanent stretch. If dried free from tension the normal state of locked and dispersed cellulose results with contraction to the length before being excessively strained. If a fabric containing bright picks undergoes a wet finishing process the fault is accentuated.

#### New Lining For Gas Cells Making Soap

Washington, D. C.—A new fabric for lining the gas cells of dirigibles, as light and effective but only one-third as costly as that made with the precious goldbeater's skin, has been developed for the Navy Department after years of research in the bureau of standards.

A substitute for goldbeater's skin has been sought by the air powers of the world since it became apparent in 1910 that the lighter-than-air ship was designed to be an important instrument of war and commerce. Development of a satisfactory substitute, employing cellulose, at this time is particularly valuable to the United States in view of the plan to construct for the Navy two \$6000,000 airships larger than either the Shenandoah or the Los Angeles.

Goldbeater's skin, which has a history as glamorous and ancient as the art of beating gold into the fineness of gold leaf, is one of the membranes of the caecum, a sort of vermiform appendix or obsolete stom-

ach, found in cattle. Only one is obtained from each animal, and the size varies. Skins from more than 1,000,000 cattle were needed to line the gas cells of the Los Angeles and the lost Shenandoah. These cost from 10 to 25 cents each.

Weighing only  $\frac{1}{4}$  to  $\frac{3}{4}$  ounce to the square yard, this skin has been, heretofore, the most efficient material known which was light enough and would prevent the too rapid escape of the hydrogen gas, or the more costly helium, with which airships are inflated. Its permeability is only about one litre per square metre in 24 hours, whereas the most effective rubberized fabric permits the escape of many times that amount of gas.

As used in making the gas cells of air ships, the goldbeater's skin is applied with rubber cement to strong cotton cloth which has been prepared to receive it with a fine, thin layer of rubber which presents a slightly sticky surface. The skins, with their natural grease carefully removed, are laid down, so that they overlap. When flipped out a basin containing a solution of glycerine and arrange in this manner, they have the quality of sticking to each other and sealing the edges. They are then dried and covered with a thin coat of spar varnish of great flexibility.

The fabric thus produced weighs from  $3\frac{1}{2}$  to 4 $\frac{1}{2}$  ounces to the square yard, compared with 13 to 16 ounces for the best rubberized material. The only advantage of the rubberized fabric has been that it cost only \$3 to \$3.50 a square yard, against about \$10 for that incorporating goldbeater's skin. It is estimated that the new cellulose fabric can be produced on a factory scale at a cost of about \$3.50 a yard.

#### Curtailment?

If some of the knockers and pessimists who persist in decrying the so-called curtailment of Greater Greenville's cotton mills would take an auto ride around the district at night, or look aloft from the Woodside skyscraper, their opinion would undergo a sudden change. The great district industrial plants, most of them running a night shift, and most of them going full blast, present a colorful and inspiring scene with their huge plants lit up against the night skies. At night, from a bird's eye view, Greenville and its industrial section presents a sight that is not soon forgotten by the average person.

Greenville's great industrial section is a world of whirling, clicking machinery—of machinery dominant, intense, tireless, carrying their message of prosperity to the four corners of the earth. Within a period of thirty years the South, and the Piedmont section especially, has developed from a bankrupt, purely farming country into a thriving prosperous industrial section, and today stands upon the threshold of her greatest era of development.

The wheel of industry continues to grind out its song of prosperity to millions and millions of people, and curtailment of operation is not even thought of. Curtailment? The word just doesn't fit in with this section. — Parker Progress, Green-

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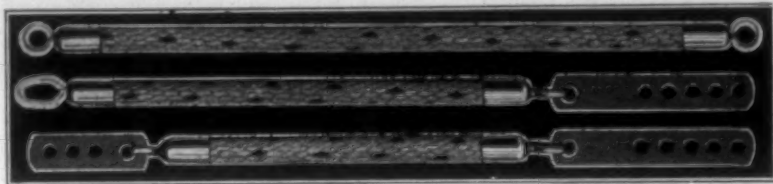
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## Manufacturing Mustarl Fabric

By Columbo

**M**USTARL is a fine, open, transparent muslin, somewhat similar to an organdie in the feel and finish, though a much coarser fabric. The cheaper grade of mustarl resembles mosquito netting. Mosquito netting, however, is a leno weave, while mustarl is but a plain woven fabric. This piece of goods is piece dyed and may be seen in any color; some are finished in pure white or bleached. The fabric is used for various purposes, the finer qualities for women wear. The fabric is principally used for women's wear, for drapering and decorating purposes, for foundations for women's hats, for bunting around bird cages, for a two-fold purpose—first to prevent the bird seed from being scattered to the floor, and second, as a decorative feature. However, the fabric is intended chiefly for drapering and decorating purposes, especially the cheaper grades. The grade of this mustarl is entirely too flimsy for a dress fabric. If the goods are taken between the thumb and forefinger with an degree of firmness and the surface of the fabric drawn between them, the threads will readily give, or leave their original place. This would certainly be a poor feature for a dress fabric. The fabric is woven in comparatively wide widths; the coarser qualities are commonly 58 inches in reed, including selvage. The selvage is about three-eighths of an inch, two ends in one heddle, while the body of the goods is drawn in one end to the heddle, and each end to a separate dent in the reed.

The goods in weaving have a tendency to roll up, that is, the selvages roll toward the center of the cloth; this is overcome, of course, by temples on the loom. The temple also prevents chafing during weaving.

Any light weight loom with a comparatively high running speed will answer for weaving mustarl, provided it is wide enough in the reed space. The warp is usually drawn in on four harnesses, in the following order: 1, 3, 2, 4, the chain being built accordingly so as to give a plain weave. The warp is sized before it is placed on the warp beam.

The width of warp in reed, 58 inches; ends per inch finished, 20; picks per inch finished, 18; reed, 650 x 1; ends in warp, 1010; 80 ends selvage, two ends in one selvage, two ends in one selvage, two ends in one heddle, total ends 1090. The take-up during weaving is very little; the take-up in finished goods about one per cent. After the fabric is finished the threads lie practically straight; this is due to the openness of the mesh. This readily illustrates that the closer the more take-up of warp yarn.

Warp yarn, 50/1 cotton; filling, 80/1 cotton. Finished weight, 10 yards equal 7 ounces. The finished fabric carries about 12 per cent of sizing.

The machinery required to make mustarl will be found to differ largely from the ordinary class of mills. The count of yarn for this cloth dif-

fer slightly, but for this article we will consider the count of warp to be 50/1 and the filling, 80/1. The yarns are made of American cotton of about 1% staple. This cotton is first mixed by hand, as large a quantity being mixed at one time as is possible. In fact, two large mixings should be made, so that one batch may be drying out while the other is being used. At this point the good sliver from all the machinery up to the slubber is mixed in, it being collected at regular intervals from the machines. An eye should be kept on the waste by the one in charge to see that too much waste is not being made at any one machine, and also to see that it is broken up into short lengths before being put into the mixings. Long lengths of sliver waste are apt to wind around the various rotating parts of the opener machinery and to cause a clot up, which requires considerable time to remove and also there is danger of a fire being started by the friction.

If trunking is used to connect the opener to the breaker picker, be sure that no scrap of iron or other metals are around where they can work into the cotton, as this also is apt to cause a fire, by coming in contact with the metallic parts of the machine and striking a spark, which ignites the other cotton very quickly, and often causes a fire on account of the current of air which fan it into a flame.

The speed of the beater of the opener is 1500 revolutions per minute, the total weight of lap at the front is 40 pounds. These are doubled four times at the intermediate picker. The beater of this machine may be either a rigid type or a pin beater. If of a rigid type it makes 1400 revolutions per minute; if a pin beater, 1450 revolutions per minute. The total weight of the lap at the front of the machine is 38 pounds or a 12-ounce lap. These laps are put up at the finisher picker and doubled 4 into 1. At this machine the cut roving waste is mixed in with the raw stock in the proportion of one lap of cut waste to three laps of raw stock. The cut roving is first put through a process to take out the twist and then run through a picker to get it into the form of a lap.

The beater of this machine may be either a rigid one or a pin type. If the former, its speed should be 1450 revolutions per minute; if the latter, 1500 revolutions per minute.

The total weight of lap of this machine should be 38 pounds or a 14½ ounce lap. At this machine all laps are weighed, and if they vary one-half pound from the standard weight they should be put up at the back and run over again. Always keep a supply of laps on hand to allow for a breakdown, etc. The laps are then put up at the cards. The speed of the licker-in should be about 325 revolutions per minute, flats should make one complete revolution every 55 minutes.

The card clothing should be 110's for cylinder and 120's for doffer and



flats. Use a large doffer either 26 or 27 inches in diameter. Strip cards three times a day, and see that they are ground over once each month a whole day. Always grind lightly. The card clothing should be looked after at intervals to see that it is not faced or hooked. Before grinding all flats should be taken and flats should be kept free from cotton embedded in the wire fillet. After grinding, the parts should be set in proper relations with each other.

The sliver at the front for this piece of goods under consideration should weigh 65 grains per yard and the production should be 700 pounds per week of 60 hours. The cotton should be run through three processes of drawing frames. It will be found a great advantage to run metallic top rolls for this grade of goods. The weight of the sliver at the finisher drawing should be about 65 grains, the doublings at each process of drawing being 6 to 1.

The hank roving at the slubber should be about .55. The slubber roving for both the warp and filling roving should be put through three processes of fly frames, the hank roving being as follows: for warp, first, 1.50 hank; second, 3.50 hank; third, 10 hank; for filling yarn first, 1.50; second, 4 hank and third, 16 hank.

The roving for warp yarn should be taken to the ring spinning room and spun into 50's count on a frame having the following particulars: gauge of the frame, 2 3/4 inches; diameter of the ring, 1 1/2 inches; length of traverse, 6 inches; revolutions per minute of the spindle, 10,000. The yarn is then spooled and warped and several warps put up at the slasher, and the required number of ends run on a beam at the front. The filling yarn is spun into 80s, on a frame having the following particulars: gauge of frame 2 3/4 inches; diameter of ring, 1 1/4 inches; length of traverse, 5 inches; revolutions per minute of spindle, 7400.

Today much muslin is being made, as stated before, the mustarl fabric is similar to the various kinds of muslin. Muslin is commercially understood to mean a soft cotton fabric, used for various purposes, principally for dress goods, underwear, sheetings, etc. The quality of muslin is as varied as the names by which it is known, there is linen muslin, butchers linen muslin, and book muslin and many other kinds. Cotton is cheaper and almost as durable, and because of this has forced its way to the front. Harriet or linen muslin, is used in considerable quantities for summer outing dresses, for which purpose the bleached fabric only is used. The unbleached linen muslin is used principally for sheeting and sometimes for pillow cases. The unbleached fabric is preferred where durability is the chief object. It is a common fact that unbleached fabrics will wear better than bleached ones.

Book linen or stiffening muslin are used extensively for stiffening and lining clothing and for the foundation of ladies hats, they are distinguished more by the feel than by the finish of appearance. They vary in appearance from plain

weave to small checks. Being made more for utility than effect, fancy weaves are not called for or necessary. One of the principal weaves used in stiffening muslin is the leno, one end crossing one. An analysis of the stiffening muslin follows: finished width, 32 inches, 24's yarn in both warp and filling, 5 1/4 ends and 45 picks per inch. Before finishing this cloth is like that of the mustarl fabric, that is, it feels flimsy. The effect obtained by finishing is to change this cloth into a very stiff, hoardy piece of goods. Goods for linens are sized the least; those for stiffening and millinery purposes are sized heavily.

After being woven, the stiffening muslin is washed, dried, dyed, dried, sized, dried, and calendered and then folded. No burling, singeing, or shearing is required, as perfect cloth is not essential and the glue or size, combined with the pressing, lays the loose fibers.

In sizing, the cloth passes through the size box and on to the drying cylinders. If a glazed finish is required, it is subjected to pressure by the heated rolls of the calender.

The sizing substances are usually glue, flour and size, of variable proportions, mixed with water to the desired constituency. The weight of the size in a piece of this fabric will vary from 5 to 40 per cent of its entire weight.

The writer has failed to bring out the finish of the mustarl fabric. However, its finish is very similar to that of the stiffening finish, insofar as the pressing, dyeing, and calendering is concerned, but it is not sized as heavily, of course, as the stiffer cloth. After the fabric is taken from the loom it is sent to the dye house. The first process is to boil it off, in order to rid it of any foreign matter present, then it is dyed or bleached as required. After this process and after the fabric is dried, it is then immersed in size. Sizing the fabric is usually done in front of the drying cylinders. The goods pass from the size through to the drying cylinders, which practically completes the finishing process.

The goods are then doubled and put onto boards in the form of rolls, after which they are ready for the market.

Mustarls are dyed on the jig machine, or the color is dyed up in the starching process with the starch. The dyed colors, being faster, are mostly used.

### Supply House Builds Home

Gastonia, N. C.—The Gastonia Mill Supply Company will soon have a modern home to house its rapidly-increasing business. Work has begun, and the basement excavation is about finished, at the new location on East Franklin avenue. The firm has been in the present location on South street since its organization seven years ago.

The new building will be three stories in height and of brick construction. Three stories and an extra large basement will provide about three times the floor space that is now used in the store on South street and three warehouses that are rented by the concern.

And we learned about buyers..

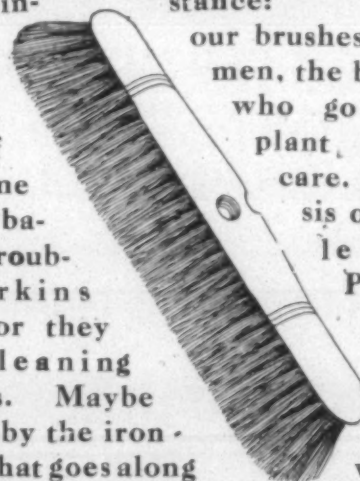


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## Blanshard and His Buddies

ON December 12th Paul Blanshard was met at Greensboro, N. C., by a group of friends including several professors from the University of North Carolina and Prof. Broadus Mitchell of Johns Hopkins University.

On December 29th Paul Blanshard was met at Washington, D. C., by Broadus Mitchell, of Johns Hopkins University, and several from the University of North Carolina and the North Carolina State College.

At both meetings vicious and untrue attacks were made upon the textile industry of North Carolina by men who are employed to teach in her colleges and Paul Blanshard was in the limelight and appeared to be among his "buddies." It seemed to be a case of "birds of a feather flock together."

Since that time thousands of copies of articles by Paul Blanshard have been distributed at the expense of somebody, but certainly not at the expense of Paul Blanshard.

Many have asked us "Who is Paul Blanshard?" He is a professional labor union organizer and parasite, who was disloyal to the United States during the World War and who has served two terms in jail.

Paul Blanshard was born in Ohio, has his home in California, but, for certain reasons which are probably quite remunerative, feels called upon to attempt to regulate the affairs of the Southern States.

During the World War there was there was an army of radicals, many of them in the pay of the enemy, who worked day and night fermenting strikes which were intended to disrupt the manufacture of munition and war supplies, and thereby prevent or delay such supplies from reaching our soldiers.

The Lusk Committee of Congress

investigated the activities of such persons and on page 947 of Vol. 1, we read:

Capt. Wright testified that organizers of the Amalgamated Textile Workers had been working in Utica some time prior to the strike, holding secret meetings and that the principal agent sent there for that purpose was one Paul Blanshard.

Later the Lusk report mentions Paul Blanshard as editor of "The Clarion, radical organ of the Amalgamated Clothing and Textile Workers."

The Amalgamated Textile Workers was formed by men who did not think they were getting enough of the graft collected by the United Textile Workers.

The leaders of the Amalgamated were charged by Thos. F. McMahon and other union leaders with being grafters and there was a considerable row over the alleged disappearance of a large fund collected as members' dues.

Lecturing before the Penquin Club in Washington, D. C., Paul Blanshard said, among other things:

"I am an American only by accident of birth. I do not believe that I have any moral obligation to stand for America."

"We do not believe in class-labor being patriotic. We must honestly try to abolish the superstition of patriotism."

"American is not a democratic nation. Of the 45,000 in the last strike four-fifths could not speak English."

"Our hope is in the next generation of workers. We must educate the young. We must peg into the minds of the young while those minds are still plastic."

"One agency in America that is trying to get the students interested in this question is the colleges."

This last paragraph in his Penquin Club address throws some light upon the reason for his being met at Greensboro and Washington, by men from the University of North Carolina and N. C. State College and lionized by them.

A recent letter from a prominent and patriotic citizen of Boston, says:

Keep your eye on the radicals in the University of North Carolina. This movement in the colleges is a matter of the most sinister portent. If people do not wake up soon it is going to be too late. Have you seen the pamphlet gotten out by some men in Florida concerning the literature used in women's colleges in that State? It is scandalous beyond belief.

Paul Blanshard went to China about the time the Russian Soviets stirred up the recent trouble and in the same letter from Boston is this statement:

He (Blanshard) is a very dangerous character and he and Harry F. Ward of the Union Theological Seminary undoubtedly did a good deal to stir up the trouble in China.

In an article in "The Survey" of October, 1926, Paul Blanshard frankly admits the work that he is doing and the co-operation that he is receiving.

We quote the following extracts from his article:

"The most encouraging development of recent years is the identification of the ablest students and the ablest young professors with the insurgent group."

"Once the radical on the campus was socially an outsider, now there is an increasing number of college editors, debaters, Y. M. C. A. presidents and 'big men' who are making vital social inquiry."

"This insurgent minority is anti-capitalistic without being intelligently pro-labor. They are closer to Mencken than to Moscow."

"Their radicalism is a piecemeal radicalism finding its way."

"College radicalism grows in the Liberal Club, Round Tables, Students Forum or simply a chapter of the League (League for Industrial Democracy)."

"The local group aims to be a ferment on the campus, a challenge to undergraduates. It brings in the most provocative speakers available."

"The last college year has witnessed a further drift towards the left by the college Y. M. C. A."

We have made no charges of radicalism and socialism at the University of North Carolina or N. C. State College that is not frankly and openly admitted by Paul Blanshard in the above extracts from his article in "The Survey."

His "buddies" at both institutions are with him body and soul, but do not, as yet, dare to come out entirely in the open.

The League for Industrial Democracy which Paul Blanshard represents as field secretary was originally the Inter-collegiate Socialistic Society which was organized according to its own statement.

"For the purpose of promoting an intelligent interest in socialism among college women and men."

Paul Blanshard secured several jobs as a minister, but always failed to make good as he has no ability except as a prolific writer of muck-raking articles. It would be impossible for him to succeed in any of the usual vocations of life.

During 1915 he was a member of the Anti-enlistment League and sought slacker pledges from his congregation. In a sermon he said "War is Hell and Christians should not go."

He aided the enemy both by trying to keep men out of the army and by delaying the manufacturers of supplies through fermenting strikes. He rightly belong in the group of disloyal radicals that our Government shipped to Russia.

In November, 1919, he was fined and given 30 days in jail at Utica, N. Y., for inciting strikers to lawlessness.

While a minister in Boston, he was also put in jail for a minor offense.

He has contributed radical and socialistic articles to most of the radical journals and has written a number of pamphlets such as "The Open Shop Movement," and "How to Run a Union Meeting."

The Journal of Labor published at Atlanta, has the following to say in its issue of Friday, January 13th, 1928:

One hearing him (Blanshard) at the Labor Temple would think he was a direct representative of the American Federation of Labor so entirely in accord with our views are those he expresses. He understands better than any one perhaps outside the American Federation of Labor itself the principles and ideals of the labor movement.

No wonder the labor unions of Atlanta found him "entirely in accord" with their views, for his most active and remunerative work has been as a labor union organizer.

We have given the record of this man, Paul Blanshard, who has come into the South with a campaign designed to remove such economic advantages as we have over New England.

We have shown that he is a former jailbird, a radical, a socialist, and that he was disloyal to our country during the World War.

Paul Blanshard has so little real ability that he would not constitute any menace if it was not for his "buddies" in our colleges and universities, men who are working under cover to make radicals and socialists out of the young men of the South.

Blanshard gets some salary from the Inter-Collegiate Socialistic Society; which he has renamed "The League for Industrial Democracy," but there are others who are financing his present drive.

This man who says that he is "An American only by accident of birth" and that "we must abolish the superstition of patriotism" boasts that in 1926, he addressed 51,000 students in 97 colleges. The college professors aided him in preaching his insidious doctrines to "minds still in the plastic age."

He was brought to the University of North Carolina by his "buddies," and it is reasonable to assume that his expenses and a fat fee was paid from funds collected from the tax payers of North Carolina and appropriated to the University for purposes of education.

In his recent pamphlets he praises the radicalism that exist at the University of North Carolina and no doubt many of his statements in "The Survey" as quoted above refer to that institution.

We are proud of the University of North Carolina and only have the friendliest feeling for it.

Most of the professors and instructors there are doing the work for which they are paid, that is, teaching the young men of our State, but somehow a group of radicals, socialists and atheists, who are fit associates for the socialist, Blanshard.

(Continued on Page 22)



## Personal News

B. L. Sanders is now superintendent of the Cotton Mill Products Company No. 1 and 2, Natchez, Miss.

E. G. Jessee has resigned as superintendent of the Watts Mills, Laurens, S. C.

L. L. Hurley has resigned as superintendent of the Hickory Spinning Mills, Hickory, N. C.

H. G. Leigh has resigned as superintendent of the Yarrowborough Mills, Durham, N. C.

W. G. Webster has resigned as overseer of the cloth room at the Burlington Mills, Burlington, N. C.

J. J. McCrary has resigned as superintendent and manager of the Willinea Cotton Mills, Macon, Ga.

Malvern N. Nass is now superintendent of the Quality Yarn Company, Atlanta, Ga.

P. M. Sinclair has accepted the position of superintendent of the Hickory Spinning Mills, Hickory, N. C.

Henry Carlisle has resigned as second hand in spinning at the Springfield plant of the Morgan Mills, Laurel Hill, S. C.

Earl Hornday has been promoted to section hand in spinning at the Springfield plant of the Morgan Mills, Laurel Hill, N. C.

Harold R. Turner has resigned his position with the Dunean Mills, Greenville, S. C., to become superintendent of the Watts Mills, Laurens, S. C.

M. W. Adams has resigned as overseer of spinning and twisting at Steele's Mills, Rockingham, N. C., to become overseer of twisting at the Judson Mills, Greenville, S. C.

R. E. Pope, formerly of the Rex Spinning Company, Ranlo, N. C., has become night superintendent of Chas. H. Bacon Company, Lenior City, Tenn.

W. Y. Smith has resigned as second hand in carding at the American Textile Company, Atco, Ga., to become overseer of carding at the Barrow County Mills, Winder, Ga.

J. E. Porterfield, formerly superintendent of the Millen (Ga.) plant of the Western Reserve Mills, is now overseer spinning at the Barrow County Mills, Winder, Ga.

James E. Gettys, who for some time has been vice-president and general manager of the Victoria Mills, Rock Hill, S. C., has been elected president and general manager.

E. J. Boswell, who recently resigned as overseer of spinning at the Elberton Cotton Mills, Elberton, Ga., to accept a similar position with the Whitehall Yarn Mills, Whitehall, Ga., has also been given charge of the carding at this mill.

P. H. Hale has been elected secretary and treasurer of the Cavalier Hosiery Mills, Pulaski, Va.

W. J. Roddy has retired as president of the Victoria Cotton Mills, Rock Hill, S. C., but will continue as chairman of the board of directors.

A. B. McCormick has resigned as superintendent of the County Moore Mills, Hemp, N. C., and accepted a similar position at the Yarrowborough Mills, Durham, N. C.

### Harry Hayes Promoted

Harry H. Hayes, who for some time has been representing the Anti-Friction Belt Dressing Company, of Baltimore, in the Southern territory, has been promoted to the position of sales manager for the company. He will continue to make headquarters at Charlotte, but will have supervision over the Eastern as well as the Southern sales force.

R. C. Buchannon will represent the company in Georgia and James P. Plowden has been assigned to the South Carolina territory.

### Edwin Clapp With Georgia Power Company.

Edwin M. Clapp of Atlanta has resigned his position as sales engineer with Fairbanks, Morse & Co., and accepted the position of power sales engineer with the Georgia Power Company. Mr. Clapp has many friends in the Southern mills who will be interested to know of his change.

### George W. Walker.

George W. Walker, Southern representative of the Cooper-Hewitt Electric Company, died suddenly at his home in Charlotte last Sunday afternoon, death being caused by heart trouble.

Mr. Walker had made his home in Charlotte for the past four years. He was widely known in the textile industry and had developed a large amount of business for his company with Southern mills. He was regarded as one of the most efficient engineers in the electrical field.

Mr. Walker is survived by his widow and one brother. Funeral services were conducted from the home on Monday afternoon.

### Mills Pay One-third of Taxes

ACCORDING to the county auditor of Greenville County, South Carolina, the textile plants carry slightly more than one-third of the taxes of that county.

The total property on the county books for taxation is \$30,598,165, of which \$10,667,985 is represented by textile plants.

Under such circumstances it is easy to see that textile plants are considered as very desirable.

## AMALIE PRODUCTS

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Their endorsement by leading bleacheries, and mill sales agents—

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Sulphonated Oils

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# MILL NEWS ITEMS OF INTEREST

**Sumter, S. C.**—London Mills, manufacturers of cotton and wool-mixed goods, here with a spindleage of 2,000 and 131 looms, has announced a proposed program to the Sumter Board of Trade, calling for the establishment of a bleaching and full printing plant to be operated in connection with their business, which was established at Sumter about four years ago. It would give employment to about 30 additional workers.

**Rock Hill, S. C.**—John E. Gettys was elected president of the Victoria Cotton Mills at a meeting of the stockholders, W. J. Roddey, who has been president, was elected chairman of the board of directors.

The election of Mr. Gettys came after more than 25 years of continuous service. He became connected with the mill in 1902, he was made superintendent in 1906, and in 1911 he was named active vice-president and general manager.

**Greensboro, N. C.**—In annual meeting here at the home of J. A. Odell, the J. M. Odell Manufacturing Company stockholders heard reports for 1927 and elected officers and directors for the year.

Reports showed 1927 a prosperous year for the yarn mill located on the Haw River near Bynum, with offices at Pittsboro. J. A. Odell was renamed president; W. W. Odell, vice-president; A. H. London, secretary and treasurer, and M. London his assistant. These officers, together with Fred C. Odell and A. H. London, compose the directors for 1928.

**Greensboro, N. C.**—Proximity Manufacturing Company have awarded contract for construction of new weaving building to J. A. Gardner, Charlotte, N. C.

The new building will be two stories, 267 x 144 feet, of reinforced concrete construction. It will be located near the office, five compartments of one-story warehouse will be demolished to make space for the new building. Five hundred Draper looms, purchased some months ago, will be installed on the second floor, and for the time being the first floor will be used for storage. Contract calls for completion in six months.

J. E. Serrine & Co., are the engineers.

**Little Rock, Ark.**—With its plea for additional fire protection granted by the Little Rock City Council, the Little Rock Textile Mill has abandoned plans for removal to Pine Bluff, and will rebuild its entire plant soon, it was announced by officials of the company.

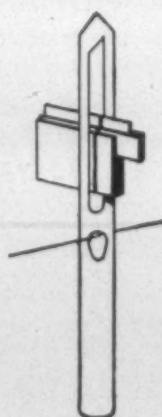
The textile plant, the first of its kind in this city, was destroyed by fire several weeks ago and for a time officials deferred plans for rebuilding because of inadequate city fire protection. The company has obtained permits for the erection of a second large warehouse, and will start rebuilding the plant proper as soon as the plans are completed.



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Selling Agents for  
**RELIABLE SOUTHERN MILLS**

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328 Broadway, New York  
**FOREIGN AND DOMESTIC**  
Selling Agents for  
**Southern Cotton Mills**



**INSTALL**  
**K-A ELECTRICAL**  
**WARP STOP MOTIONS—NOW**

The far seeing weaving mill executive installs K-A Warp Stop Motions knowing that money put at interest will yield interest—but money invested in K-A will yield ten fold.

Southern Representative  
**WILLIAM D. WHITTAKER**

**R. I. Warp Stop Equipment Co.**  
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Parks, Playgrounds and Cemeteries

Complete Topographic Surveys  
General Designs, Grading, Planting  
and Detail Plans  
Supervision of Landscape and  
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Largest Landscape Organization in the South

**Huntsville, Ala.**—The Lincoln Mills of Alabama is preparing plans for the construction of what is declared to be the largest cotton mill in the South. Construction will begin in the early spring, it is understood. Leonard Aitken, general agent, has not disclosed details of the project.

**Clover, S. C.**—A Brooklyn, N. Y., plant which produces rayon tubing or the manufacture of women's garments, men's ties, etc., has made a definite proposition to the town of Clover, for a location. The plant claims that it will employ 125 people and have a payroll of \$2,000 per week. The Clover Community Club has named a committee, headed by V. Z. Hambright, to investigate the proposal.

**Greenville, S. C.**—J. E. Serrine & Co., engineers, announce that the plans for Piedmont Print Works to be located at Taylors, S. C., have been delivered to contractors, and that the tentative date for receiving bids has been sent for January 30th.

The several buildings to be included in the first contract are bleaching and printing building, 500 x 200 feet, of part 1-2-3-story construction; grey goods storage and machine shop building, 150 x 100 feet, 1 and 2-story; finished goods storage and office building, 100 x 50 feet, 1 and 2-story; and boiler house.

Contract for village houses will be awarded later.

**Austin, Texas.**—M. H. Reed of Austin, wealthy cotton factor, and associates who had reported that they were about to conclude negotiations for the purchase of a large cotton mill at Manchester, England, and would move it to Austin, now give out the information that the transaction was not consummated and that instead of buying the larger plant they have purchased a cotton mill of 22,000 spindles at Manchester and that they will continue to operate it in its present location. Along with the mill they bought enough cotton on hand to run it 30 days, Mr. Reed said.

**Burlington, N. C.**—The May Hosiery Mills will greatly increase production in the finishing departments when the proposed building changes are completed, involving an expenditure in building and equipment of approximately \$160,000.

Plans have been made by J. E. Serrine & Co., engineers, Greenville, S. C., and contract awarded to Burns-Hammond Co., Greensboro, for a three story and basement building addition on the South Spring street side of the present property.

The old one story buildings now used for dyeing and boarding, and the old boiler house will be demolished to make space for the new development.

The three-story part will be 212 feet long on South Spring street, ex-



tending from Morehead street to southeast property line. The width on Morehead street will be 77 feet, and that part in the rear of the office will be 107 feet wide. A two story section, 25 x 50 feet, will be built on Morehead street and adjoin the three-story building. The new buildings will contain approximately 75,000 square feet of floor space and the exterior construction and appearance will match the office building.

**Athens, Tenn.**—Warwick Knitting Mills, manufacturers of woolen sport goods, Brooklyn, N. Y., will move to Athens, if the wishes of the majority of local subscribers are carried out.

The committee which reported at the meeting is composed of Tom Sherman, chairman; G. F. Lockmiller, and Judge Clem J. Jones, who investigated the plant in Brooklyn. They found the industry a growing concern, operated by experienced, practical, and reliable men. The majority of stockholders voted that the committee sign the contract with the mill owners.

Mr. Sherman said steps will soon be taken to close the deal.

The Brooklyn plant is valued at \$300,000.

Local men subscribed \$100,000.

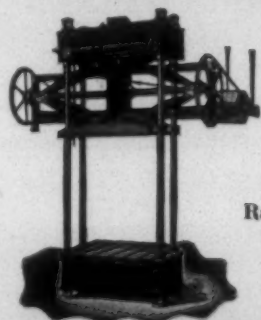
**Greenville, S. C.**—It is understood that A. F. McKissick has purchased a tract of land between Easley and Pickens and will build a large cotton mill, the plant to be equipped with machinery from a mill in New England. Mr. McKissick was for many years president of the Grendel Mills, Greenwood, S. C.

**Nashville, Tenn.**—Fiske-Carter Construction Company, contractors, for the addition to the Warioto plant of Morgan & Hamilton, have awarded contracts for structural steel to Nashville Bridge & Iron Company and steel sash to David Lupton Sons Company. The new addition will be used for weaving. J. E. Sirrine & Co., are the engineers.

#### Position Wanted

Experienced bookkeeper and general office man open for position. Efficient and reliable. Best references. Address "W" Box No. 844, Charlotte, N. C.

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Knuckle  
Joint  
60 to 500  
Tons  
Pressure

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Simple  
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Established 1872

Let us tell you more about them.

Dunning & Boschert Press Co., Inc.

367 W. Water St.

SYRACUSE, N. Y.

**Greenville, S. C.**—The Piedmont Shirt Company has been organized here by Shelard Saltzman, of New York and a group of local business men. A building has been secured on West Nash street and operations will be started next month. About \$30,000 will be invested in equipment to make men's shirts.

**Salisbury, N. C.**—The Rayon Converting Company has been organized here by E. B., T. B. and M. E. Marsh, all of this place. It is understood the company plans to establish a plant for converting cotton and rayon yarns and goods. T. B. Marsh is president of the Marsh Cotton Mills here.

**Malvern, Ark.**—The International Shoe Company, St. Louis, is considering erecting a plant here for the manufacture of cloth for shoe linings.

**Bennett, N. C.**—The Bennett Hosiery Mills, recently organized here, have secured a building and will install equipment for making men's hose. W. C. Brewer is president.

**Hartsville, S. C.**—L. W. Robert & Co., architects and engineers, of Atlanta, Ga., have been selected to supervise the building of the Hartsville Bleachery here, the site having been definitely selected. A 40-acre tract has been purchased by the new company, which will eventually move the equipment of the Easton Finishing Company, from Easton, Pa., to this locality. It is stated, however, that the plant at Easton, Pa., will continue in operation for several months, and that the trade will receive ample notice before the removal of machinery is commenced.

Fred B. Voegeli, president of the Easton Finishing Co., is president of the Hartsville Bleachery; and Robert W. Bole, treasurer of the Easton Finishing Co., is the treasurer and sales manager of the new bleachery also.

**Arnold to Represent Swan, Finch & Co.**

A. W. Arnold, formerly with the Saco-Lowell Shops and the Victor Ring Traveler Company, will represent Swan, Finch & Co., lubricants, with headquarters at Greenville, S. C.

Mr. Arnold recently returned from an extended visit to Hawaii and Panama.

## LEATHER BELTING



Charlotte Belting is subjected to a very rigid system of inspection and put through a service test before leaving our plant.

We absolutely guarantee our belting to give complete satisfaction.

### Charlotte Leather Belting Company

302 E. 6th Street

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Rockford, Ill., U.S.A.

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Warp Tying Machines

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Automatic Spoolers

High Speed Warpers

## Reliable Humidifying Devices

Since 1888

### AMERICAN MOISTENING COMPANY

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Georgia

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## Wanted At Once

Spindle plumbers and erectors. Must be first class in every respect. Wire or phone

Yates D. Smith, 819 East 2nd Ave., Gastonia, N. C.; phone 608-W.

## A SLIPPING COUNTER BELT

means

### LOST PRODUCTION

Why not  
eliminate this loss  
by installing

## FABREEKA

"The original belt of its kind"

An inquiry will bring a representative immediately

### Fabreeka Belting Co.

Southern Branch  
Rock Hill, S. C.

J. R. McElwee, Manager

## Curtailment By Print Cloth and Narrow Sheetting Mills

Walker D. Hines, president of the Cotton-Textile Institute, Inc., New York City, authorizes the following:

"Print cloth mills in the South very generally began reducing their production with the week ending Saturday, December 24. By the end of December approximately two and one-quarter million spindles in print cloth mills were operating on a schedule involving closing down from Fridays at noon until the following Monday mornings. The latest advices are that this number of spindles has been increased to approximately three million operating substantially on this schedule. Announcement was made on December 13th to the effect that a large number of narrow sheetings mills having

more than 1,600,000 spindles had reduced their weekly production in like manner. These mills have continued on this schedule and additional mills have since reduced their weekly production in a similar way. These weekly reduction are over and above numerous other reductions made during Christmas holidays. The Fall River print cloth

mills have been running on reduced schedules or some weeks and it is estimated that at the present time they are operating on schedules that average about 35 per cent of their capacity."

### James H. Morgan

**J**AMES H. MORGAN was nearly fifty years old when he organized the old Sampson Mill, the parent of the present American Spinning Company. He was at an age when many men think of retiring and when only a few consent to launch into an entirely new enterprise, particularly one as uncertain as the textile industry was in South Carolina in the year 1898.

But life had always been a matter of perseverance to Mr. Morgan. He had known the hardships of the Civil War and the period of Reconstruction. For nineteen years he had lived on a farm and become accustomed to the practice of helping to earn a living from the soil. As a young man he came to Greenville and entered the mercantile business. For nearly thirty years he followed that occupation earnestly and intelligently. When fire put him out of business he did not stop. He saw the possibilities of textile manufacturing which was just then showing

signs of flourishing in this region. And he went into that business with the same dominant zealotry that he tackled another business as a young man.

The career of Mr. Morgan shows to what extent the personal background and integrity of the founders entered into the successful establishment of the textile industry in South Carolina. The very necessity of Mr. Morgan's early life inculcated in him the cornerstone of business management—thrift. He knew the value of a dollar. He demonstrated his ability to handle it well. It was a rigorous and a trying apprenticeship, but it was the kind of training that enabled him and others like him to make a success of running a cotton mill in the days when that was not easy. It was one of those fruits of adversity which invariably compensate for some of the thorns.

Mr. Morgan made a definite and lasting contribution to the material prosperity of his State. But for his enterprise and ability there would have been one less industry in Greenville and maybe more, for the momentum of success of this and similar projects attracted others. He was in every sense a public-benefactor. He not only ran his business well, but he entered into the religious and civic life of the city and

measured up to the qualifications of good citizenship. Greenville has been greatly benefited by his existence.—Greenville Daily News.

### Blanshard and His Buddies

(Continued from Page 18)

shard, have obtained a foothold and now constitute the greatest menace of our State.

As a man's love for his mother would not keep him from recognizing the danger of a cancer on her face and seeking to have same removed, the loyal graduates of the University of North Carolina and N. C. State College should recognize that both institutions have, in part, unhealthy conditions and that there is no disloyalty in seeking their removal.

### When the Rye was Opened—

The following little poem, by an unknown author is causing a smile here and there:

Four and twenty mill men feeling mighty dry,  
All went up to Canada to drink a little rye.  
When the rye was opened, they all began to sing,  
"Who the hell is Volstead—God Save the King."

## MAKE US YOUR BOBBIN MAKER

### ROLLS

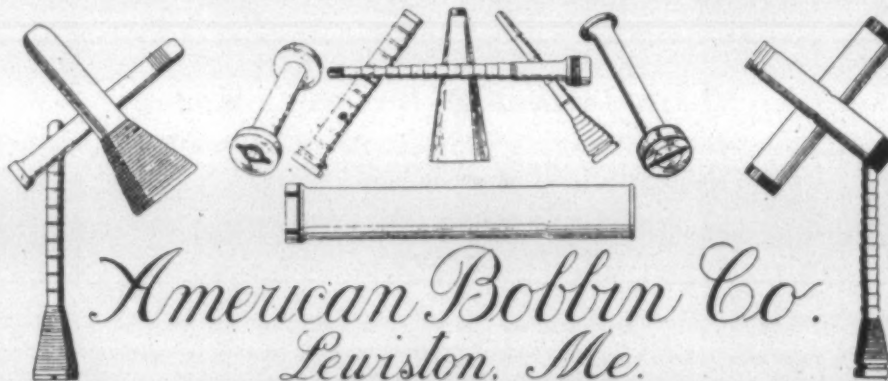
UNDERCLEARER  
FOSTER WINDER

### SPOOLS

TWISTER  
METAL PROTECTED

ENAMELED BOBBINS  
OF ALL KINDS

CONES AND BUTTS



### BOBBINS

MULTIPLE HOLE FEELER  
SLUBBERS  
INTERMEDIATE  
WARP  
TWISTER  
SPEEDER  
FILLING  
FLAX AND JUTE  
METAL PROTECTED  
DUCK FILLING  
UNIVERSAL WINDERS  
WOOL FILLING  
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We Are Specialists in Manufacturing Automatic Loom and Rayon Bobbins of All Type

INSPECTING  
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### Curtis & Marble Machine Co.

Textile Machinery  
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WORCHESTER, MASS.

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DOUBLING  
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MAKING  
HIGH GRADE  
PRODUCTS  
FOR 45 YEARS  
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LAWRENCE, MASS.

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"HIGH GRADE"

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AUTOMATIC LOOM  
SHUTTLES  
YOU SHOULD DO SO  
THERE ARE NONE  
BETTER ON THE  
MARKET





CHARLES M. SCHWAB

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"**B**USINESS journalism has established a great clearing house of information," says Mr. Schwab, probably as widely recognized for his human understanding of selling as for his capacity as a great manufacturer.

"You cannot have prosperity," says Mr. Schwab, "without confidence, and you cannot have confidence without a free and honest exchange of information."

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\* \* \* \* \*

Both editorial and advertising pages are made to fulfill this great responsibility. The men and methods the editors select for their pages and the advertising which the clients of this paper buy to inform its readers of their products, are brought together between the covers of a business journal for intimate help and service.

When you have read both editorial and advertising sections and you have a complete knowledge of the service the publisher of this journal has prepared for you; then you, like Mr. Schwab, will see it—a Maker of Prosperity.



The A. B. P. is a non-profit organization whose members have pledged themselves to a working code of practice in which the interests of the men of American industry, trade and professions are placed first—a code demanding unbiased editorial pages, classified and verified paid subscribers, and honest advertising of dependable products.

*This publication is a member of*

**THE ASSOCIATED BUSINESS PAPERS, INC.**

## SUPERINTENDENTS AND OVERSEERS

We wish to obtain a complete list of the superintendents and overseers of every cotton mill in the South. Please fill in the enclosed blank and send it to us.

....., 192.....

Name of Mill.....

Town.....

..... Spinning Spindle..... Looms.....

..... Superintendent.....

..... Carder.....

..... Spinner.....

..... Weaver.....

..... Cloth Room.....

..... Dyer.....

..... Master Mechanic.....

Recent changes.....

## "Why I Went South"

(Continued from Page 7)

they were in bad repute with investors and, almost without exception, had been failures and defaulted on their bonds. Such a condition certainly called for investigation and mine showed that the failure of public utilities in the South up to that time had been due to the fact that they were almost always run as side issues by local business men, all of whom had their own businesses to attend to. The plants had been built primarily to promote the town and were, without exception, small, terribly over-loaded, long since outgrown and in need not only of immediate reconstruction, but also of enlargement beyond the ability of the local men to finance.

My investigation soon proved that the conditions favoring the successful operation of public utilities were far greater in the Southern States than they were in the Northern. Long years of bitter experience with operating costs in the Northern States had shown that it was impossible to operate an electric railway property through the winter months at any profit. Snow, ice, sleet and bad weather kept traffic low and made operating costs so high that we considered ourselves fortunate if we earned enough in December, January and March to pay operation, while it was taken for granted that the month of February would always show a deficit.

In the South, however, I found that the street railway properties had none of this trouble or expensive operation through the winter. The mildness of the climate made for more travel and outdoor life and consequently the street railways in the South earned as much in December as they did in July. Instead of enormous fluctuations in earnings between summer and winter, as we had in the North, there was an even run through the 12 months of the year, and the absence of snow, ice, sleet and bad weather operated equally in favor of electric light and power properties, for in the South there were no losses from broken wires and poles due to sleet and snow, as we always had in the North. It was as comfortable in Mississippi in January and February as it was in April in New York, while March in the South was like May in the North. Such weather kept the people outdoors and produced such an extraordinary movement of the people that I found that any given population in a Southern city would show almost twice as much earnings as an equal population in New England or New York and at least 50 per cent more than an equal population in one of the North Central States. Our earnings in December and January equalled or exceeded the earnings of June and July. My answer to the bond men who had declared that it was impossible to sell the bonds of Southern utilities was to present to them these facts.

There was a legend prevalent at that time that a railroad or public utility property could not afford to pay more than 5 per cent interest on its bonds, but I found that earnings of the Southern railroads and public utilities so much greater, and

the cost of maintenance and operation so much less, than those of Northern properties serving equal populations that, in order to challenge comparison and force consideration of the merits of Southern properties, I began by making the bonds of the Southern propositions that I reorganized and financed carry 6 per cent interest. And, in spite of this, they were always able to show better proportionate earnings in comparison with bond interest than such companies in the North serving larger populations.

## Meaning of Longer Days.

When I had first gone South, it had been in the late winter and I was surprised to find the days so much longer than the winter days in the North, which I had just left. I did not then appreciate what this meant in a business way nor did I then realize that the longer winter day in the Southern States was matched by a shorter day in the summer, which had equally important economic values. Few people know that there is this extraordinary difference in the length of the days between our Northern and Southern States, and still fewer of those who know of this difference appreciate its significance and economic importance. From Boston and the manufacturing districts of New England, through the great Mohawk Valley of New York, from Albany and Troy through Utica, Rome, Syracuse and Rochester to Buffalo, Erie, Cleveland, Detroit, Grand Rapids, Northern Indiana, Chicago, Minneapolis and St. Paul all these have a day that at its shortest in the winter, is an hour and eight minutes shorter than the corresponding day in the belt through Georgia, Northern Florida, Alabama, Mississippi, Louisiana and Texas, while in summer, when one would expect the heat of the South to be oppressive, the days through this Southern belt are an hour and eight minutes shorter than the days through the corresponding manufacturing belt of the North.

In other words, the Southern States have an hour more daylight in the winter, when they want it and it is worth having, and an hour less sunshine in the summer, when they don't need it and are glad to be relieved from it. It is this hour less daylight that makes the Southern summer so comfortable and enables it to escape the excessive heat of mildness of the climate and this longer day throughout the winter in our the longer day in the North. The Southern States have a most important bearing on the cost of labor and the expense of operation in industry.

When I first began to develop electric light and power propositions and to build interurban railways in the South, I found that there was no standard of wages for mechanics and engineers or for linemen, motor-men and conductors. In order to get the best men locally, it was only necessary to pay 50 cents a day more than was being paid to the best men in the local lumber mills. This brought us the best mechanics and the highest class of labor to work for the electric light, power and railway companies, at about half the wages that such companies paid in

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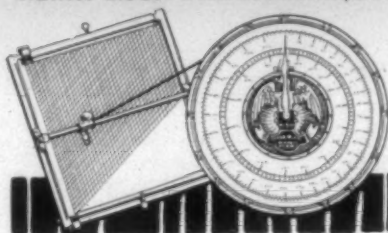


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the Northern States. These men were all good, native-born Americans and nearly all of them property owners. They either owned cottages in the towns adjacent to the lumber mills or farms nearby, which they had cultivated before going to work in the mills. I soon learned that there was available throughout the South a large supply of intelligent, native-born American workers, at wages much lower than prevailed anywhere in the North. I could not understand wages and undertook to find the reason. Few people realize how much the Northern factory is compelled to expend merely to keep the factory building warm during the winter, and few people realize how much the Northern worker is compelled to eat during the winter, just to keep up his bodily heat and keep warm. All this is absent in the South. The working people in the South do not need to eat heavy or rich food merely to keep themselves warm. All they need to eat is to keep up the energy that they expend in working, and this economy diet extends to the low cost of warming the homes in which the homes in which the workers live. There are really few days throughout the winter in this Southern belt when it is necessary to keep up fires merely to keep warm.

The difference in the cost of liveworker must spend for food, warming between what the Northern clothes and heating his house and what the same worker would have to spend keeping warm in the South is not less than \$200 or \$250 a year. If the Southern worker accepts a wage 25 per cent less than a worker in the same class gets in the North, he is still about 45 per cent better paid in proportion to his cost of living. This low cost of labor is a most important item to consider when one comes to develop the resources of the South.

A considerable expense in a Northern factory is the lighting of the factory building during the short days of winter, but the Southern factory, with an hour more daylight, escapes most of this expense. The mildness of the winters in the South and the longer day make the general conditions under which men work far superior to the conditions in the North, for there are many more open windows and better ventilation is possible without a great loss of heat, while outdoor work is possible almost the whole winter through, without any distress. This is especially important to farmers, stock-raisers and the building trades.

Whenever one undertakes to develop industry, the first consideration is the cost of power, and I was amazed at first at the high price of coal everywhere, with great deposits of anthracite in Arkansas and plenty of bituminous coal in Kentucky, Tennessee and Alabama. The coal actually went North, instead of South for industrial use. The reason for this lay in the fact that the coal rates to Northern points by rail were only about half as high as for similar mileage in the Southern direction. Even now, the railroad rates on Southern coal have never

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## Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

—A—	Page	—J—	Page
Aberdeen Hotel	—	Jacobs, E. H. & Co.	—
Acme Sales Co.	—	Johnson, Chas. B.	—
Akron Belting Co.	31	—	—
Allis-Chalmers Mfg. Co.	—	—	—
Aluminum Co. of America	—	—	—
American Bobbin Co.	22	—	—
American Cotton Growers Exchange	—	—	—
American Moistening Co.	21	—	—
American Textile Banding Co.	—	—	—
American Yarn & Processing Co.	29	—	—
Amory, Browne & Co.	28	—	—
Apco-Mosberg Corp.	—	—	—
Arabol Mfg. Co.	—	—	—
Arnold, Hoffman & Co.	—	—	—
Ashworth Bros.	34	—	—
Associated Business Papers, Inc.	23	—	—
Atlanta Brush Co.	17	—	—
Atlanta Harness & Reed Mfg. Co.	—	—	—
—B—		—	
Bahnsen Co.	—	—	—
Bancroft, Jos. & Sons Co.	—	—	—
Barbey-Colman Co.	21	—	—
Bell, Geo. C.	—	—	—
Bond, Chas. Co.	—	—	—
Borne, Scrymser Co.	—	—	—
Bosson & Lane	17	—	—
Bradley, A. J. Mfg. Co.	25	—	—
Briggs-Schaffner Co.	36	—	—
Brown, David Co.	22	—	—
Butterworth, H. W. & Sons Co.	—	—	—
—C—		—	
Carrier Engineering Corp.	—	—	—
Catlin & Co.	29	—	—
Charlotte Leather Belting Co.	21	—	—
Charlotte Mfg. Co.	2	—	—
Celanese Corp. of America	—	—	—
Cocker Machine & Foundry Co.	—	—	—
Collins Bros. Machine Co.	—	—	—
Commercial Fibre Co. of America, Inc.	—	—	—
Adam Cook's Sons	11	—	—
Corn Products Refining Co.	—	—	—
Courtney, Dana S. Co.	—	—	—
Crompton & Knowles Loom Works	—	—	—
Crump, F. M. & Co.	—	—	—
Curran & Barry	28	—	—
Curtis & Marble Machine Co.	22	—	—
Cutler-Hammer Mfg. Co.	—	—	—
—D—		—	
Dary Ring Traveler Co.	24	—	—
Deering, Milliken & Co., Inc.	28	—	—
Diamond Chain & Mfg. Co.	14	—	—
Dixie Mercerizing Co.	16	—	—
Dixon Lubricating Saddle Co.	25	—	—
Drake Corp.	—	—	—
Draper, E. S.	20	—	—
Draper Corp.	—	—	—
Dronfield Bros.	—	—	—
Duke Power Co.	—	—	—
Dunning & Boschert Press Co., Inc.	21	—	—
DuPlan Silk Corp.	10	—	—
DuPont de Nemours, E. I. & Co.	—	—	—
—E—		—	
Eastwood, Benjamin Co.	—	—	—
Eaton, Paul B.	27	—	—
Eclipse Textile Devices, Inc.	—	—	—
Economy Baler Co.	34	—	—
Emmons Loom Harness Co.	13	—	—
Entwistle, T. C. Co.	—	—	—
—F—		—	
Fabreeka Belting Co.	21	—	—
Fair Bearing Co.	—	—	—
Fairbanks-Morse & Co.	Insert	—	—
Fales & Jenks Machine Co.	—	—	—
Farish Co.	20	—	—
Ferguson Gear Co.	—	—	—
Flexible Steel Lacing Co.	—	—	—
Ford, J. B. Co.	25	—	—
Foster Machine Co.	—	—	—
Benjamin Franklin Hotel	—	—	—
Franklin Process Co.	—	—	—
—G—		—	
Garland Mfg. Co.	—	—	—
Gastonia Belting Co., Inc.	27	—	—
Gastonia Brush Co.	15	—	—
General Dyestuff Corp.	—	—	—
General Electric Co.	—	—	—
Georgia Webbing & Tape Co.	—	—	—
Glidden Co.	—	—	—
Graton & Knight Co.	—	—	—
Greist Mfg. Co.	27	—	—
Greenville Belting Co.	—	—	—
—H—		—	
Harris, A. W. Oil Co.	7	—	—
Harrison-Wright Co.	—	—	—
Hart Products Corp.	19	—	—
H. & B. American Machine Co.	8	—	—
Houghton, E. F. & Co.	Insert	—	—
Howard Bros. Mfg. Co.	2	—	—
Howard-Hickory Co.	35	—	—
Hunt, Rodney Machine Co.	26	—	—
Hyatt Roller Bearing Co.	—	—	—
—I—		—	
Iselin-Jefferson Co.	21	—	—

been reduced as they have been in the coal fields of Kentucky, Indiana and Illinois to develop the manufacturers of Chicago, Detroit and Cleveland. But, in Mississippi, in which I had accidentally started, I found a peculiar growth of Mississippi in the last 15 years even without low coal rates. Mississippi is the great yellow pine State and the waste from the saw mills has been a constant problem. Fire burned continuously merely to get rid of this waste. It not only was useless, but also was in the way. But, somebody conceived the happy thought of building a power house at the end of a saw mill and turning this waste into electric power. The waste was turned into power, not on the basis of fuel value, but on the basis of a fraction of a cent per kilowatt-hour of electric energy produced. It was this kind of electricity that we generated and used at Laurel and Ellisville and at McComb and Magnolia. Similar plants were in existence in many places in the State, and in a number of places, like the great cotton mill at Laurel, collateral industries were established merely to use this power which practically cost nothing. There are many places where such power is still available, though the construction of a power house would not be warranted unless there was enough timber still standing to keep that particular lumber mill running for 25 years. But, now, it must compete with the hydro-electric companies that are covering the State with their transmission lines.

When I first went South, the hydro-electric possibilities there were just beginning to be developed. I had just completed an exhaustive study of the Hudson River Power Company for some New York clients and had found that the waterpowers of New York and New England would freeze up so tight every winter that the flow would practically vanish, and in nearly every instance it was necessary to supplement the water-power plant by an equivalent steam plant. This called for a double investment, half of which was bound to be idle most of the time. There was no freezing in the South, and consequently no shut-off at the source of the supply of water that furnishes Southern power. In addition to this, there was far more timber standing on the Southern slopes which, acting as a reservoir or holdback, saved water as it fell on the Southern hills. But, what was still more important was that the rainfall in the Southern States was almost twice as much as that in New York, and New England. So I found not only that the waterpower plants in the South were more reliable than those in the North, but also that for any given area of watershed they would develop almost twice as much power. I became convinced that the hydro-electric development of the Southern States would ultimately draw there most of the plants now depending upon hydro-electric power in New York and New England.

For at least 20 years, I have steadily advised my clients and friends to invest in the South, feeling sure that they would profit thereby at least twice as much as they could possi-

bly profit from any equal investment in the North. There can be no doubt that there will be in the near future an enormous movement of industry from the difficult conditions in the North to the milder and better conditions in our Southern States, with cheaper power, lower taxes.

Why send cotton to New England to be manufactured, when no factory in New England can operate as economically or under as good conditions as it can in the South?

Why ship Southern lumber to Grand Rapids, when the furniture can be better made in the South, where the lumber is?

Why ship hogs or cattle to Cincinnati, St. Louis or Chicago, when packing houses at Memphis, Mobile or New Orleans can handle them as well, or better?

I am a Northern man and my predilection for the South is the result of my best judgment on the facts as I have found them. I have felt for a long time that, if these facts were generally known, many a struggling manufacturer in the North would say "why waste any more time here? Let us move South, where the conditions are so much better and success easier."

### An Expectant Situation

The textile situation at present seems to be an expectant one, the interest being centered on the possibilities of finished goods sales during the next few weeks. The Textile World, by way of analysis, says it is fully realized that the future position of the whole market depends largely on sales of finished goods supplementing the active movement of gray goods, which has lately been taking place. There appears to be some uncertainty among merchants as to just how much may be expected from buyers who are entering the market for the finished product this month. Many believe that jobbers are about to place good sized orders, as it is pointed out that with inventory out of the way they will be ready to operate, and that their present stocks are much depleted. Others do not share this view, and believe that jobbers will be conservative in covering their immediate needs. More confidence is generally felt in the future activity of the cutting-up trade. The fact that cutters-up have shown interest in many different lines lately is taken as a good sign, by merchants, that large orders will be placed when a price is agreed upon. The cutting-up trade has already been willing to do business at lower prices, but sellers consider their prices low enough as they are and are holding firm with the idea in mind that buyers will act when they are convinced beyond doubt that business can not be done at any reduction. —Charlotte Observer.

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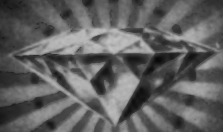
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**Review of 1927 Marketing  
Problems**

(Continued from Page 10)

fore the September Government cotton report was issued it touched 23.90c, but ten days later it had dropped to 20.55c.

**Large Cloth Production.**

From that period until after the middle of December the staple ranged between 19c and 20c and the trade was slow in manifesting confidence in the value or its stability.

For the first nine months of the year sales of cloth ran substantially ahead of the very large production, amplified by night and day operations in many Southern mills. After the cotton report in September was issued cloth trading fell off substantially decrease in the unfilled orders on the books and some increase of stocks in hand.

The swing of prices in the cotton goods market during the year was not as violent as in some of the after-war years. A standard print cloth that had opened at 6½c a yard had advanced by March 15 to 7c, and a month later was back to the opening price. By September it had reached 9½c, the high point of the year, and on December 15 had dropped back to 7½c, from which point it rose moderately and steadily on fair sized sales.

**Effects of Co-operation.**

Competition for business kept prices very close on many of the finished lines. This was noticeably true of wide sheetings, towels, cotton ducks, ginghams and bleached goods were made and more than the usual volume of high priced qualities was distributed.

Through the efforts of the Association of Cotton Textile Merchants and the Cotton-Textile Institute the statistical condition of the industry was made very plain to manufacturers. To avoid the further accumulation of stocks in advance of demand, curtailment of the output was at first taken up individually and by the middle of December there was 20 per cent less production in sheetings, print cloths and fine plain combed goods going on.

**Raw Silk Consumption Large.**

Cotton mills in Maine, New Hampshire and a few in Massachusetts posted notices of a 10 per cent reduction in wages, but at the close of the year this policy was not being generally followed. In the larger centers of production the output was being curtailed more drastically and it was hoped that a general wage reduction might be avoided.

Raw silk consumption and delivery in the first half of the year broke all previous records. But Japan silks declined to the lowest price for several years, and under a parity of \$5 per pound for some of the standard grades.

The fabric trade suffered considerably from an overproduction of the medium and lower price qualities and the season in silks for spring and summer was less satisfactory in profits than for a long time. The production of silk hosiery was vastly increased and became highly competitive. In the latter part of the year the Japanese Government offered its support to raw silk dealers and reelers and it is be-

lieved that greater stability in prices for the fiber will be seen in the coming spring.

**Linens and Burlaps.**

While the experience of the past year in the silk trade was somewhat of a setback, compared with the prosperity of after-war years, there is no reason to doubt the continued very large consumption of silk in that country for dress purposes.

Due to high costs of production abroad the linen trade was only moderately satisfactory during the year. The consumption of damasks was comparatively small and the dress linen business was of moderate proportions. Fancy linens and handkerchief linens sold in large steadily in producing channels it volume, but although prices rose was very difficult and oftentimes impossible for merchants here to sell at replacement cost.

Burlap shipments were less last year than in the year preceding, there being a lessened consumption in the bag trade. Resistance to the high prices and the speculative conditions of sale in Calcutta was constant.—Journal of Commerce.

**Paul Blanchard**

Paul Blanchard, while not an authority, writes voluntarily on labor conditions in the Southern cotton mills. He is just one of the multitude of self-appointed guardians of the South in its industrial progress. Generally the South is familiar with what is being said by Mr. Blanchard and others. It is much the same, and all of the same school of dissatisfaction with the manner in which the South is working out its own industrial salvation.

Perhaps no part of the world, certainly no people on earth, have accepted with fair composure such volumes of advice upon how they shall conduct their own affairs, as the South, and the folks thereof. At the same time being there is a perfect flood of literature on conditions in the cotton mills of the South. There has always been a fair amount of such literature, but since the South has attracted wide interest and attention by its industrial progress and is competing successfully with other parts of the country in textiles, there is increasing insistence that we accept the views of outsiders and do things as they say should be done. It is amazing that we continue on the even tenor of our way.

The Southern cotton mill is a development of the South. All conditions may not be ideal, but it is a record of progress. — Spartanburg Herald.

**Troco Lubricating Company Enters  
Textile Field.**

The Troco Lubricating Company, of Philadelphia, Pa., manufacturers of fluid and semi-fluid oils and greases, has decided to enter the textile field and has located George Dodds at Charlotte as their Southern representative.

Mr. Dodds, was formerly with the Keystone Lubricating Company, and has had long experience with oils and greases.

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Cotton Yarns, Combed Peeler, Carded Singles and Ply, Audry Spinning Co.,  
Weldon, N. C., Mandeville Mills, Carrollton, Ga., Mills Mill No. 2, Woodruff, S. C.,  
Wabena Mills, Lexington, N. C., White Hall Yarn Mills, White Hall, Ga.,  
Gray Goods, Print Cloths, Twills, Sheetings, Pajama Checks, Arcadia Mills,  
Spartanburg, S. C., Clinton Cotton Mills, Clinton, S. C., Hermitage Cotton Mills,  
Camden, S. C., Mills Mill, Greenville, S. C., Osage Mfg. Co., Bessemer City, N. C.

## Cotton Goods

New York. — The cotton goods markets were generally slow during the week, but the character of trading showed some improvement and indicated that more active business is developing. Sales of gray goods were small and some price concessions on goods in second hands were noted. Wide sheetings and bleached goods were quiet, but steady. Very little new business was reported in gingham. Sales of flannels have been only moderate.

Production of sheetings and print cloths has been materially reduced and fine goods output is to be put on a basis of about 20 per cent of normal, beginning this week.

Gray goods were quiet, but mills held quotations steady and rejected bids on some substantial quantities where concessions were required. Small sales of print cloths and sheetings were made, second hands moving a few goods and mills taking a part of the limited business passing. There was a lack of desire in several quarters to take orders at prices which were considered the market. There were sales of nearby 64x60s at 8c, a few holding for 1/4c and 1/4c more, and bids out for quantities up to 15,000 pieces at 7 1/2c, which were rejected. Small sales of 80 squares second hand were at 10 1/4c and 10 1/2c was also paid. The 68x72s were found at 8 1/4c, but were scarce and 9c tight the first hand market. For the 60x48s buyers paid 6 1/4c for several lots and 10s for the 72x76s. Occasional sales of 8.20 yard double cuts were at 5 1/2c.

Chief interest in sheetings seemed to be in the 6.15 yard. Reports were that large quantities of the 40 squares count could have been sold for delivery into the summer, if available at 5 1/4 net. These bids, clinded everywhere, with the market however, were reported as being deket holding at 5 1/4 net. For 31-inch 5.00 yard, 6 1/4 net was paid for small lots. Certain goods were heard at three-quarters, but seven-eighths was the general asking price; 5.50 yard at 6 1/4 net; 4.70 yard at 7 1/4 net; 37-inch, 48 squares, 4.00 yard at 8 1/4 net; 56x60, 4.00 yard heard at 9 1/2 to five-eighths net; 36-inch, 5.00 yard reported at 7 5/16 net and also at one-quarter net, with a number of sellers holding for three-eighths; 36-inch, 3.00 yards at 10 1/4 net; 40-inch, 3.60 yard quoted at 10 1/4 net; 40-inch, 5.00 yard at 7 1/2 and at five-eighths net; 40-inch, 3.75 yard quoted at 9 net.

The tire fabric market has been fairly active in some quarters with inquiry involving several million pounds of cords and chafer fabric. There was a report of some spot 23s 5-3 ply cords selling for 43c.

Fair business in the better makes of 128x68 combed broadcloths has been noted in a few centers since Wednesday of this week. For deliveries February-March-April, buyers paid 17, 17 1/4 and 17 1/2 cents, depending upon the make. At these prices about 30,000 pieces were understood to have been moved.

The carded broadcloth situation held about unchanged. Second hands were reported to have sold some 100x60s at 11 cents; in first hands one-eighth to one-quarter had been the last quotations. For 80x60s, 9 1/2 cents and for 90x60s, 10 1/2 cents seemed the best.

A few combed pongee sales were made, these including 38 inch construction by mill number, at 12 1/4c. The 34 inch 72x100s are quoted 12c to 12 1/4c and the 38 inch 14s to 14 1/4c. Several smaller lots of combed broadcloth were taken, one of the better makes of 128x68s at 17 1/4c and pima 120x64s two ply by single at 29c. The best grades of 144x76s sold in a small way at 19c and other makes held for 18 1/2c and 18 3/4c.

There were sales of dobby 64x44s rayon and cotton mixtures at 16c on contract and 64x48s at 17c, made of domestic rayon. The usual price on to almost any quality in the market 64x44s plain was 15c which applied ket, both or spot and contract delivery. The 64x48s plain held at 15 1/4c for foreign and 16 1/4c for domestic rayon filling.

There has been somewhat more doing in piques which were advanced 1/2c a yard during the day following a similar rise recently. Producers of these goods find mills sold up through February, the usual construction being the 17 or 18 wale. There was a report of a fair amount of spot and quick goods being sold, this applying, it was stated, to some of the poorer goods.

There was very little interest in the Fall River print cloth market during the week and the period was, in fact, one of the quietest in some months. The sales will hardly reach 25,000 pieces, buyers showing but little desire for goods except for filling-in purposes. Despite the inactivity mills have held firm on quotations and even asked advances where small quantities were wanted for quick shipments.

Curtailment reached the peak last week, with production reaching between 35 and 40 per cent of normal. The shutting down of machinery in the print cloth group continues with very little accumulation of goods. The loom stoppage is considerable and preparatory machinery idleness is in keeping with loom curtailment.

Cotton goods prices were as follows:

Print cloths, 28-inch., 64x64s	6
Print cloths, 28-in., 64x64s	6 1/4
Print cloths, 28-in., 64x60s	6
Print cloths, 27-in., 64x60s	5 1/4
Gray Goods, 38 1/2-in., 64x64s	8 1/2
Gray goods, 39-in., 68x72s	9 1/4
Gray goods, 39-in., 80x80s	11
Dress gingham	16 1/4 a 18 1/2
Brown sheetings, 4-yd. 56x60s	10 1/4
Brown sheetings, stand.	13 1/2
Tickings, 8-oz.	22 1/2 a 24
Denims	18
Staple gingham, 27-in.	10 1/2
Kid finished cambrics	8 1/4 a 9 1/4
Standard prints	8 1/4



# The Yarn Market

Philadelphia, Pa.—While the improvement that was expected in the yarn market after the opening of the year has been very slow to develop, the trade continues hopeful that active buying will soon be under way. Inquiry last week was slightly better and the volume of small order business was somewhat better. The December production of carded yarns was considerably lower and with the curtailment that is to be put into effect at the close of this week, it is expected that the situation will show more strength. Buyers have been limiting their orders to a minimum quantity for many weeks and most of them are thought to need supplies. They have shown a continual lack of confidence in yarn prices and have delayed purchasing as much as possible. With this fact in mind, yarn producers believe that the potential demand is strong and may be expected to develop actively before much longer.

In the meanwhile, the state of the trade is generally quiet. Spinners of carded yarn are holding prices generally firm and seem intent on refusing business for future delivery at the present low prices. Production is being controlled more generally than was expected and is expected to be a big factor in bringing better conditions.

Actual sales of combed yarn have shown very little increase. At the same time, the downward trend of prices seems to have been stopped and the demand from knitters and mercerizers was slightly better last week. The weakness in staple cotton has been an important factor in holding up combed yarn business, but it now appears that the decline in both cotton and combed yarn prices has reached the bottom.

## Southern Two-ply Chain Warps

8s	31
10s	31½
12s	32½
14s	34
16s	36
20s	39
24s	40
26s	41½
30s	50
40s	54
40s ex.	64
50s	64

## Southern Two-ply Skeins.

8s	31
10s	31½
12s	32
14s	33
16s	34
20s	36
24s	39
26s	41½
30s	48
36s	50
40s	54
40s ex.	63
50s	73
60s	73
8s	32
10s	33
12s	34
14s	35
16s	37
20s	37

## Southern Single Chain Warps.

10s	31½
12s	32½
14s	33½
16s	34

20s	36
24s	38
26s	39
30s	42
40s	50

## Southern Single Skeins.

6s	31
8s	31
10s	31½
12s	32
14s	33
16s	34
20s	35½
22s	36
24s	38
26s	40
30s	41½

## Southern Frame Cones.

8s	31
10s	31½
12s	32
14s	32½
16s	33
20s	34½
24s	35
26s	36
28s	37
30s	37½
30s	39½
40s	52½

## Southern Combed Peeler Skeins, etc.—Two-ply

16s	48
20s	50
30s	58
36s	63
40s	69
50s	74
60s	82
70s	95
80s	1.05

## Southern Combed Peeler Cones.

10s	41
12s	42
14s	43
16s	44
20s	45
22s	46
24s	49
26s	51
28s	53
32s	56
34s	56
36s	59
38s	61
40s	62
50s	73
60s	82
70s	95

## Durham Hosiery Colors

Durham Hosiery Mills report the five best selling colors for the past three weeks, in the sheer and service weights, as follows:

Sheer: Gunmetal, grain, French nude, dust and mirage.

Service: Champagne, nude, grain, dust and gunmetal.

## Working on Rayon Plant.

Burlington, N. C.—Work on Burlington's new rayon plant is being pushed forward, despite cold and rain. The foundation is done and steel girders are being placed for the roof. Placing of the machinery is a matter of only a few days now.

Contractor A. F. McNally, who has been here only a few weeks, has had a large force of efficient men on the job. It has been said that this speed of the work is due to the fact that blue prints were complete when Albert M. Johnson, of Chicago, said to be chief owner, named Burlington as his choice of a location.

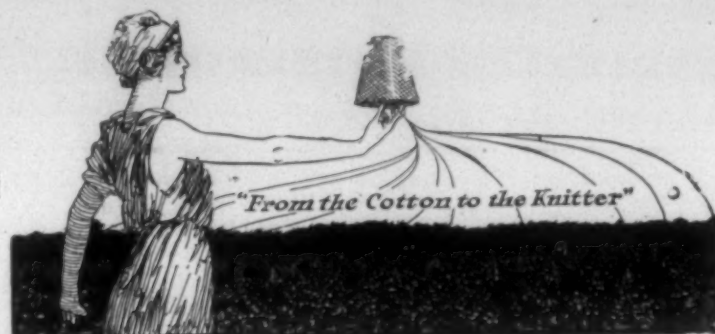
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Rock Hill, S. C.

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## Want Department

### For Sale

20,000 Dixon No. 4 Adjustable Saddles and Stirrups, new.  
800 Allen Wooden Head Beams, 24" head with 54 1/4" barrel, new.  
Small lot of Allen Beam Heads, 27" diam. head, 54 1/4" barrel, slightly used.  
3,000 McColl Spooler Guides.  
20 Draper Warpers, new 1923, will carry 810 ends.  
15 Whitin Spoolers, 160 spindles each, for filling wind, new 1923.  
80 Whitin Cards, 12" coilers, 27" doffer.  
10 Whitin Spinning Frames, 252 spindles each, 3 1/2" gage.  
All above machinery can be bought at exceedingly low prices.

### Offered for Sale

The machinery equipment consisting of Carding, Spinning, Weaving, Dyeing and Finishing Machinery of the Puritan Mills, Fayetteville, N. C. This machinery can be inspected at the mill and close price will be given. Wire or write C. A. Hamilton, care Puritan Mills, Fayetteville, N. C.

### Wanted

Position as cotton classer. Experienced classer and slapler and graduate of Charlotte Cotton School. References furnished. W. I. Cross, 1916 7th Ave., Columbus, Ga.

### Wanted

28 deliveries, late model Saco-Lowell Drawing. Metallic rolls, 12" coilers. Address "Drawing," care Southern Textile Bulletin.

### Wanted

One good loom fixer for Draper looms. Apply J. A. Ross, Overseer of Weaving, Williamson Mills, Charleston, S. C.

### For Quick Sale

21 Whitin Cards, 40-inch, 12-inch coilers.  
48 Delivery Whitin Drawing, 6 ends back, 12-inch coilers.  
4 Providence Speeders, self-balancing rail, 160 spindles each, 8 x 3 1/2 gauge.  
4 Slubbers, 11 x 5 1/2, 72 spindles each.  
21 Lowell cards, 40 inches wide, 24-inch doffers, 12-inch coilers.  
1,000 10-inch roving cans.  
8,000 4 x 5 spools, wooden heads.  
8,000 4 x 6 spools, metal heads.  
20,000 8-inch Warp bobbins, for medium Whitin Gravity spindles.  
4 Easton and Burham spoolers, 90 spindles, 4 x 6 spool.  
4 Entwistle Beam Warpers, complete.  
All above machinery in first class condition and can be bought at sacrifice, subject to prior sale or other disposition. F. O. B. mill floor, Southern shipping point.

JAS. A. WALKER  
P. O. Box 391  
Charlotte, N. C.

### Superintendent Available

Yarn mill superintendent will be available for position Feb. 1st. 16 years' experience, 4 years as superintendent. Textile college training. Best references from former employers. Best of reasons for desiring change. X. Y., care Southern Textile Bulletin.

### Office Manager Wanted

Man of good address, habits, young, efficient, experienced. Capable of managing general details of office of well established textile machinery manufacturing plant. Experienced in bookkeeping, letter writing, etc. State qualifications, as suggested, naming salary wanted to start with. Give references. Splendid opportunity for the right man. Address Office Manager, care Southern Textile Bulletin.

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